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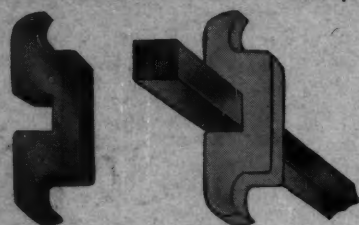
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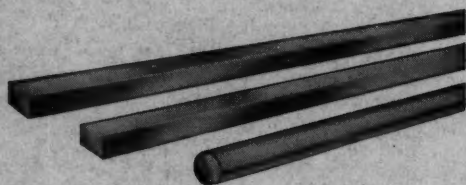
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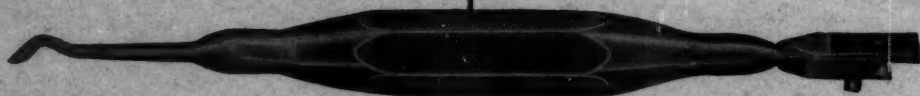
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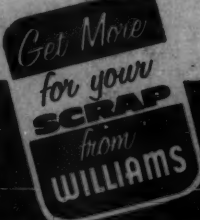
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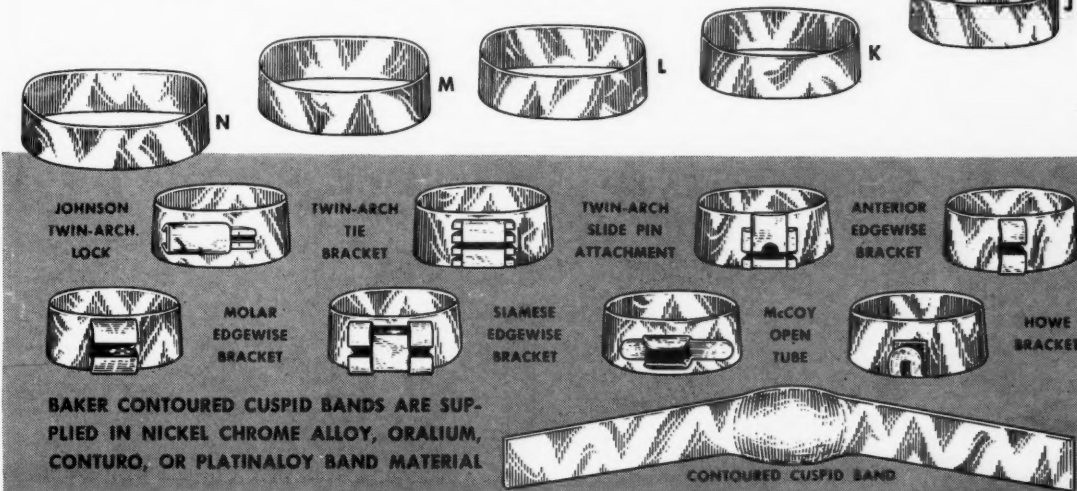
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# American Journal of ORTHODONTICS

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VOL. 46

JANUARY, 1960

No. 1

## Original Articles

### THE EDGEWISE APPLIANCE IN ROUTINE PRACTICE

T. M. GRABER, D.D.S., M.S.D., PH.D.,\* KENILWORTH, ILL.

IT WAS Edward H. Angle who said: "All you can do is to push or pull or turn a tooth. I have given you an appliance. Now, for God's Sake, use it!" Indeed, he gave us a number of appliances, as did many pioneers in orthodontics. I am strongly of the opinion, despite current technical advances, despite metallurgical strides, despite more efficient armamentaria, that there is no one single appliance to do the job. Many attachments are available for bands. If they are used properly, uniformly good results can be achieved with all of them. The fact that a man is an "edgewise man," a "twin-arch man," or a "Crozat man" does not mean that he is a good, bad, or indifferent orthodontist. It is a sad commentary today that some men, using a certain appliance, assume an air of superiority. They comment with icy condescension on those in their community who have not reached their high level of enlightenment. Then, all at once, they will "discover" a simple way of doing a certain thing; they will incorporate it in their routine adjustments, totally oblivious to the fact that the other men may have been using this same approach for a long time. Disciples of one technique or another band themselves together, fostering a "cultism" that is not good for orthodontics. We all have successes, we all have problems, and we all have failures, claims to the contrary notwithstanding. There is no use hiding our heads in the sand (or the models on the shelf); other dentists continue to see these patients after we have rendered services, and they know what was done or not done! As long as we deal with factors over which we have no control, this will continue. There is no easy, Utopian "open sesame" to the routine achievement of stable ideal occlusion. Perhaps this should not even be our goal. Such a mechanistic approach, unaware of the fundamental

Presented before the Southern Society of Orthodontists, Atlanta, Georgia, Oct. 12, 1959.

\*Department of Orthodontics, University of Michigan.

facts of physiology, of individual differences, of the problems of growth gradients, timing, growth direction, of tooth-size discrepancies, and of the molding effect of the soft-tissue draping, may well produce dire consequences from which the denture and supporting structure cannot recover.

What we must do is to understand the biologic factors and limitations as thoroughly as possible and then attempt a therapeutic result in line with these factors. There is too much loose talk today about apical base changes—3, 4, 6, and 8 degree changes. We hear talk of lingual root torque of  $\frac{1}{2}$  to  $\frac{3}{4}$  inch, of stimulation of condylar growth, of "functional appliances," and so on. Ashley Howes has shown so well that the point A which we pick on the maxilla to signify maxillary apical base is not even basal bone (Fig. 1). It is a continuation of the ridge of bone running downward from the anterior nasal spine and somewhat anterior to the actual basal bone which it is supposed to signify.

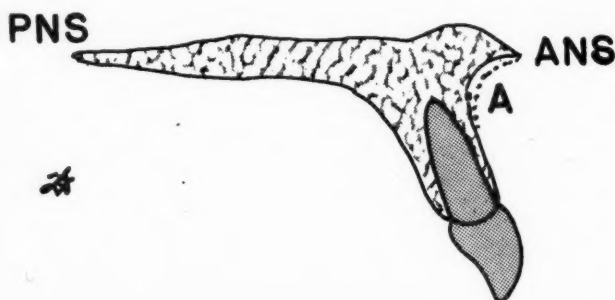


Fig. 1.—Point A is often difficult to pinpoint because of the double-profile outlines of the actual labial plate of bone over the incisors and the supra-alveolar midline ridge that projects anteriorly to the basal bone, rising to the anterior nasal spine. Note the palatolabial dimension in cross section. The relatively thin covering of bone makes unlikely some claims of major apex movement of 1 to 2 cm. to the lingual side.

The bone over the maxillary incisors is seldom more than 1 to 2 mm., but from some tracings shown you would think it was 1 cm. Try this on yourself. Put your finger in your mouth and palpate the midline of the maxilla, high in the mucobuccal fold. You will feel this ridge of bone, labial to the actual bone overlying the incisors. There is little evidence to show that we can affect this ridge appreciably with appliance therapy, although we undoubtedly do affect the bone lying directly over the incisors. As for torque, again from some claims you would think that the apices were moved lingually fully 1 to 2 cm. Seldom is there more than 3 to 5 mm. of bone between the apices of the maxillary incisors and the external surface of the palatal plate. Quite obviously, the apex would either be out in the roof of the mouth, clear through the compact bone of the palatal plate, or orthodontic procedures have recontoured the palate behind the incisors. I must look with a jaundiced eye on the latter. There is no question that some influence must exist. As teeth erupt and are tipped or torqued lingually, the alveolar bone nearest the lingual crest becomes more vertical. To do this at the apices, however, to the extent claimed in some quarters, is questionable. There is no "never" or "always" in physiology, so I do not categorically deny the possibility of such a phenomenon. But I do question

the routine achievement of such results. Reasoning from the particular to the general is fraught with danger in orthodontics or in most aspects of medicine and dentistry.

I like to think that some of *you* come home from a meeting with an inferiority complex. Are those beautiful "before and after" results shown in the clinics and the fine results in evidence in the American Board of Orthodontics display routine, run-of-the-mine results? The best remedy for this "meeting melancholia" is to visit the offices of some of these men. It is not that they are not good orthodontists, not that they are not conscientious, not that their results are not good, but the same problems arise in their offices as in mine—such things as unilateral responses to Class II therapy, difficulty in correcting some overbites, difficulty of torquing incisors lingually in some Class II, Division 2 cases, creation of functional problems during treatment, and occasionally root resorption, decalcification under an undetected loose band, etc. I remember dropping in unannounced on one man who had given a clinic the previous week and had stated that he never had any loose bands. He had six that one day. This was not so terrible, for his bands were well made. He is a conscientious orthodontist, but perhaps he was "carried away with the program," and it is so easy to forget the unpleasant things and remember only our successes.

I have nothing new to offer you. My philosophy is a welding of many techniques and philosophies of many men. I do things a bit differently than I did a year ago. Next year I may close extraction spaces differently than I do now. Right now, however, I am satisfied with what I am doing, and if one approach does not work, then there are several other approaches for me to try. In my hands, a particular appurtenance is usually effective. Others may do better with something else, and I have no argument with this. I will outline my usual approach to Class I and Class II cases, since these make up the bulk of practice.

#### CLASS I MALOCCLUSIONS

Class I problems are problems of arch length. The denture is in balance with the associated musculature, but there just is not enough room for the teeth if that balance is to be maintained. I have not been successful in establishing a stable result by expansion to get the teeth into normal occlusion and then allowing so-called normal function to develop the supporting bone. I have cases in which I have expanded a collapsed arch, opened spaces, tipped back molars that have drifted mesially, etc., but these are unusual problems. Most of the time, in marked arch length problems, I must sacrifice teeth. I cannot understand the reluctance of many orthodontists to remove teeth as they attempt to preserve the full complement of teeth and ignore the obvious fact that they are impacting third molars more deeply and that these teeth will have to be lost later (Fig. 2). In many cases when first premolars are removed, there is sufficient space to accommodate third molars in the dental arches when the time comes for them to erupt. Certainly these teeth are valuable if they can achieve normal occlusion.



If I can anticipate ahead of time the need for tooth sacrifice, then I must institute a planned program of serial extraction following the tenets of Dewel and Kjellgren. This means instituting orthodontic management at about 8 years of age, although actual appliance therapy is usually begun in the permanent dentition, or when the patient is 10½ to 12 years of age. I would like to briefly outline my procedure. I remove deciduous first molars, then deciduous cuspids, and often deciduous second molars at intervals dictated by periodic dental radiographic examination. This technique is quite familiar to you. You all know how much autonomous adjustment can accrue from properly instituted procedures. I have patients who have never even worn appliances. At the very least, time and treatment are reduced quite substantially as the incisors align



Fig. 2.—Cephalometric tracing of patient after "ideal" treatment. Space was opened for cuspids. Third molars are deeply impacted.

themselves and the cuspids drop back into the spaces created by the removal of the first premolars. A word of caution: Do not remove the deciduous cuspids too early. Otherwise, the cuspids erupt ahead of the first premolars. Keep the cuspids in as long as you can, or until you feel certain on the basis of the dental radiographs that the first premolars are indeed erupting ahead of the permanent cuspids. When this is not possible, second deciduous molars usually must be removed to allow the first premolars to erupt.

To close spaces, either those left after a serial extraction program or those created by removal of premolars in the permanent dentition, I need control of the individual teeth. This means banding first molars and all teeth anterior to them (though not necessarily all at once) and sometimes banding second molars to level off arches. I use chrome alloy appliances because I think that they are stronger, easier to manipulate, have less need for recementation, and are easier for the patient to keep clean. I used gold for five years, so my impression is based on clinical experience. That does not mean that you cannot do equally well with gold. It is a matter of individual preference. I use the edgewise attachment because it is most versatile. There are a number of variations of

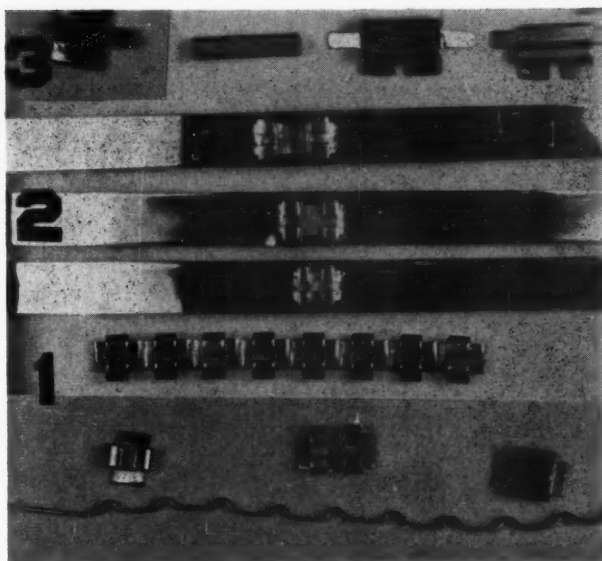


Fig. 3.—Edgewise attachments. 1, Single edgewise brackets in strip, twin edgewise bracket, molar width edgewise bracket, and rotating staples. 2, Narrow, medium, and wide twin brackets welded to bands. 3, 0.022 by 0.028 inch buccal tubes for molars; plain, with welding flanges, Inconel which requires soldering, and double tubes (0.022 by 0.028 and 0.045 inch round).

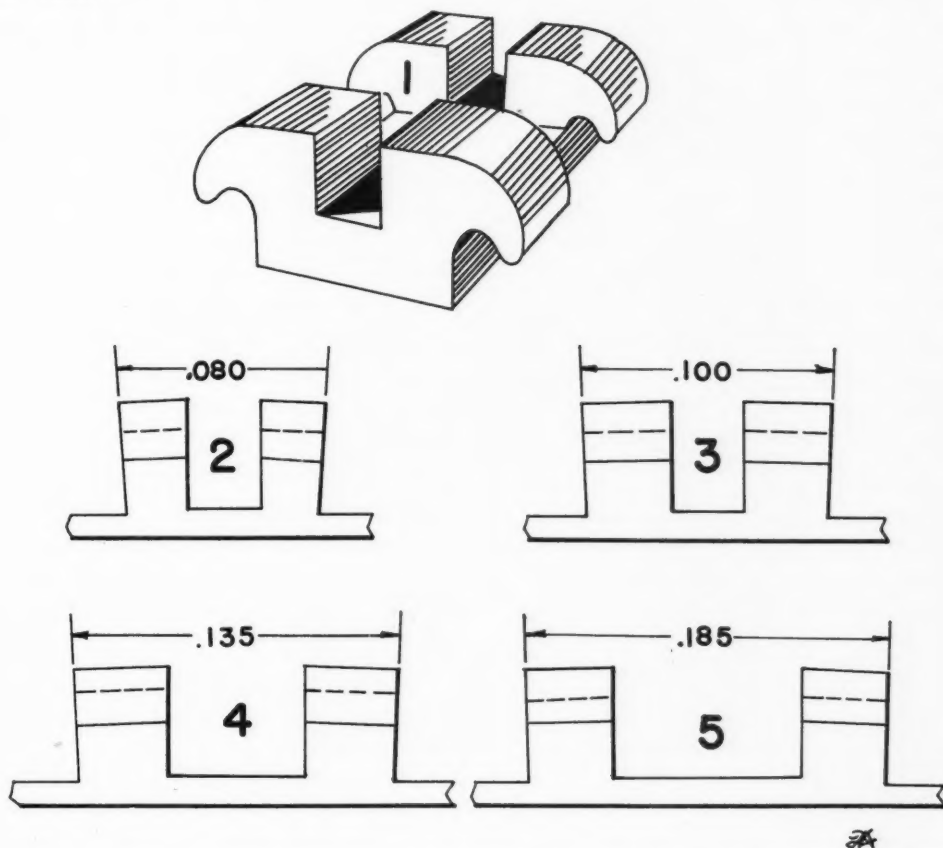


Fig. 4.—Twin edgewise brackets. 1, Drawing to show slot size and tying flanges. 2, Narrow twin bracket. 3, Intermediate twin bracket. 4, Regular twin bracket. 5, Wide twin bracket.

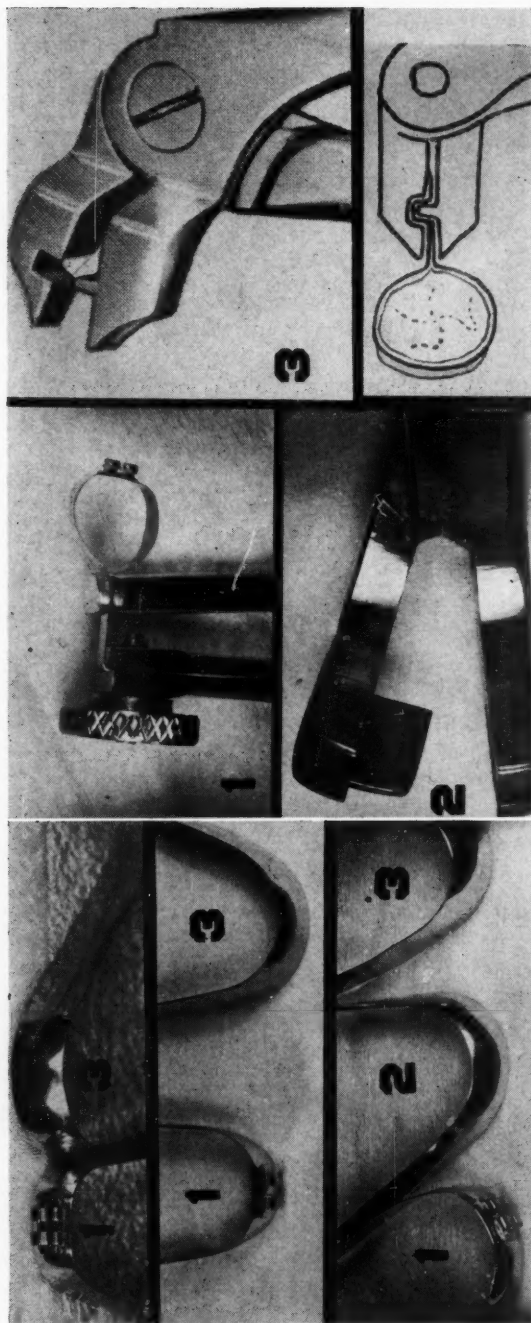


Fig. 5.

Fig. 5.—Contoured premolar, cuspid and molar blanks. 1, Premolar blanks, with twin bracket prewelded. 2, Contoured cuspid blank. 3, Contoured molar blanks.

Fig. 6.—Band- and loop-forming pliers. 1, Regular anterior, and premolar-band-forming pliers. 2, Loop-forming pliers. 3, Peak molar-band-forming pliers.

Fig. 6.



the original edgewise brackets (Fig. 3). I use wide twin edgewise brackets on the maxillary central incisors, intermediate or regular twin edgewise brackets on the maxillary lateral incisors, intermediate or narrow twin edgewise brackets on the lower incisors (Figs. 3 and 4), contoured cuspid blanks with single brackets welded and eyelets welded to the mesial and distal sides, and contoured prewelded premolar blanks. Lower molars are contoured blanks, but we use ordinary 0.005 by 0.180 inch molar band material for upper molar bands (Fig. 5). Peak pliers are used to form lower molar bands (Fig. 6). Regular band-forming pliers are used for others. Anterior bands are 0.003 by 0.125 inch, and cuspid and premolar bands are 0.004 inch thick. This may seem complicated, but it works out with a minimum of trouble, once the routine is established. Tooth control is effective, and recementation is a minor problem. I find it necessary to band second molars often in Class II cases because of the excessive curve of Spee (Fig. 7). After the banding is completed a 0.014 or 0.016 inch steel arch wire is inserted for each arch. This is usually a 0.014 inch wire first. These arch wires are left for three weeks, and then 0.016 inch arches are placed. Three weeks later 0.018 inch arches are placed. Most rotations are reduced with the 0.018 inch stainless steel arch. This often requires three to five adjustment appointments.

A vitally important consideration in any edgewise technique is the proper band position. Sloppy band placement will ensure sloppy results. Careful positioning of each band in the middle third of the tooth is a long step toward success (Figs. 7 to 9). The less often compensatory bends have to be made in the arch, the better. Any multibanded technique operates under the same rules. A light, resilient straight wire, placed in brackets that are in correct position on the teeth, will produce gratifying results in a very short time. Compensatory bends in one segment often negate adjustments put in the arch wire for specific purposes in another segment. Thus, a case can be effectively "tied up" by the introduction of undiscernible reciprocal vectors of force that prevent the primary adjustment from working out. This is my reason for using light wires and straight wires as long as possible. This is the philosophy behind the Begg differential light wire approach, too, which is really not a great deal different from what many of us have been doing for quite a while.

Since rotations usually take three to five adjustments, a second series of 0.018 inch stainless steel arches is frequently required. To iron out rotations in the anterior segments, cuspids are tied distally to the molars, either by stainless steel figure-of-eight ligatures, by elastic thread, or by pull coil springs tied to the distal staple of the cuspids (Fig. 8). Sometimes we use push coil springs. Tying in this manner helps control cuspid rotation. As soon as bracket control is gained, 0.020 inch round stainless steel arches are placed to level off a bit, to establish arch form, and then, depending on the need for conserving anchorage, either a new 0.020 inch arch with tie-backs and closing loops is placed or an Elgiloy\* 0.021 by 0.028 inch arch wire is used, with vertical loops and tie-backs (Fig. 9).

\*A product of Rocky Mountain Metal Products Co., Denver, Colorado.

Even with Class I cases, I use extraoral force, often against the upper arch (Fig. 10). Loops are bent into the 0.020 inch round stainless steel arch wire to receive the cervical gear and to serve at the same time as closing loops.

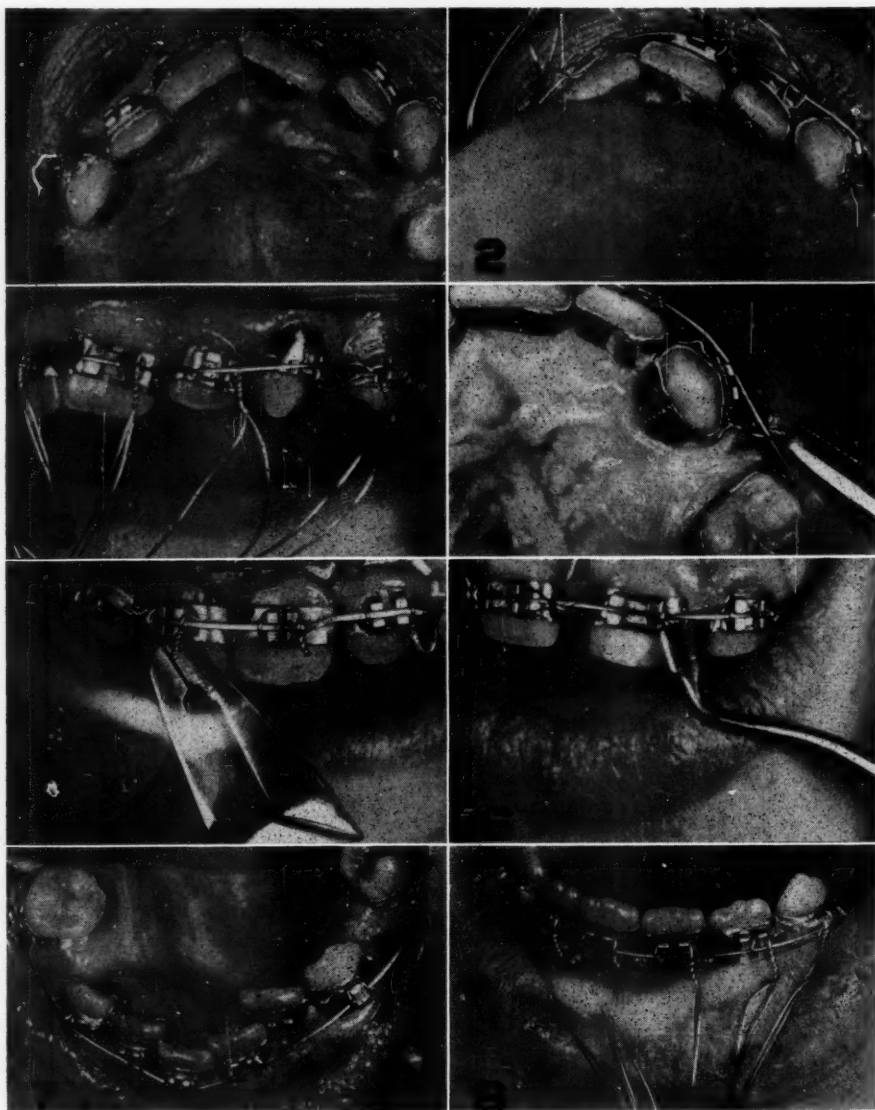


Fig. 7.—1. Teeth banded and ready for 0.014 inch first arch. Note wide twin brackets on central incisors, intermediate twin brackets on lateral incisors, and single edgewise brackets on cuspids, with mesial and distal rotating staples. 2, 0.014 inch stainless steel arch wire tied loosely to place. 3, "Pigtails" twisted and excess ligature ready to be cut off. 4, Tying in distal rotating staple on cuspid. 5, Clipping ligature tie "pigtails." 6, Tucking in "pigtail" under arch wire. 7, 0.016 inch arch wire tied into place. 8, Second 0.018 round arch wire being tied in. Rotations being corrected.

I do not feel that rectangular wires are uniformly needed. Often they can tie up tooth movement that could be achieved by round-wire adjustment of less magnitude. Certainly, root resorption is less likely with round wire than with rectangular wire. If I plan to use Class II and Class III elastics alternately

Fig. 8.

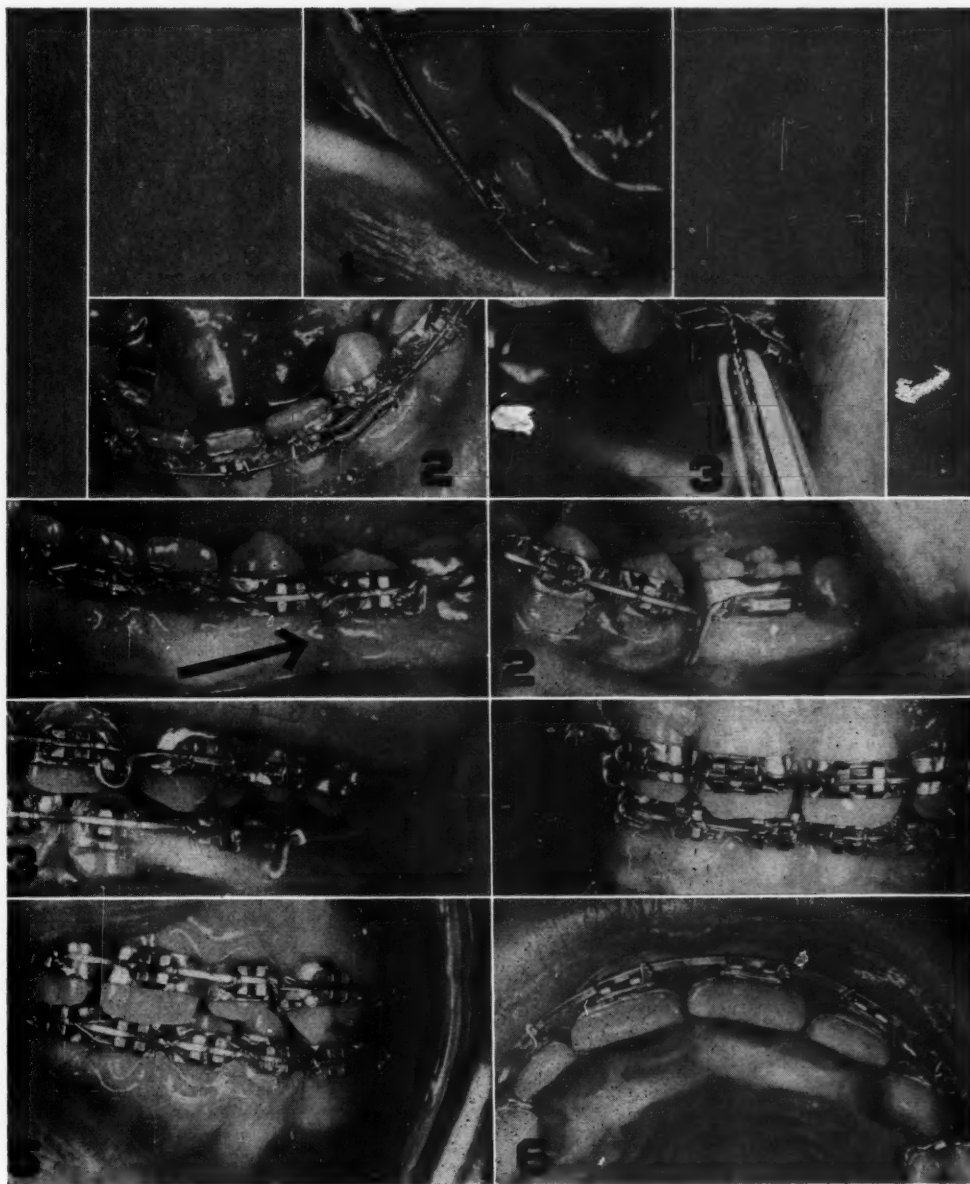


Fig. 9.

Fig. 8.—1, Push or open coil spring to “unlock” lower second premolar that is erupting distally. 2, Short push coil spring to “spin” cuspid. 3, Tying distal staple on cuspid to rotate and move cuspid distally.

Fig. 9.—1, Circular closing loop, bent into rectangular arch, and brass ligature tieback soldered to arch wire mesial to molar tube. 2, Vertical closing loop and tieback at molar in second-premolar extraction case. 3, Upper rectangular arch with elastic and extraoral force hook distal to lateral incisor and tieback loop bent into lower arch. 4, Edgewise finishing arches. 5, Steel figure-of-eight ligatures to close spaces. 6, View from incisal aspect to show first tying-in of 0.022 by 0.028 inch Elgiloy arch wire.



Fig. 10.

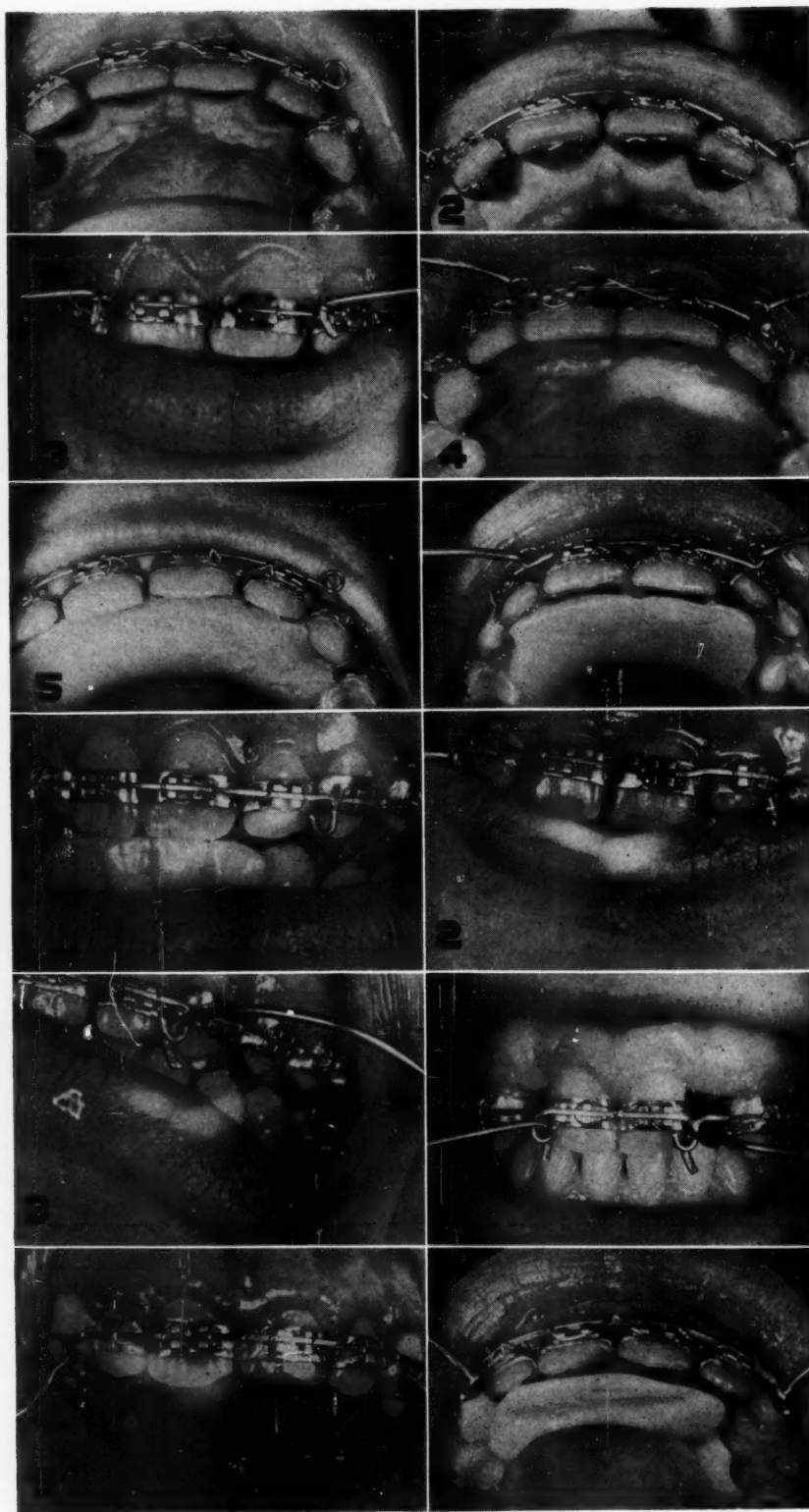


Fig. 11.

(For legends, see opposite page.)

to close extraction spaces, after getting bracket engagement, I am more likely to use a lower rectangular arch to prevent excessive procumbency of the lower incisors. If the crowns of the maxillary incisors become upright during treatment, or if I suspect that I might be tipping the apices of these teeth labially (which can happen in some instances), I use a rectangular arch in the maxillary appliance. This allows lingual root torque or at least prevents labial root movement. Hooks may be soldered to receive extraoral force (Fig. 11). The use of

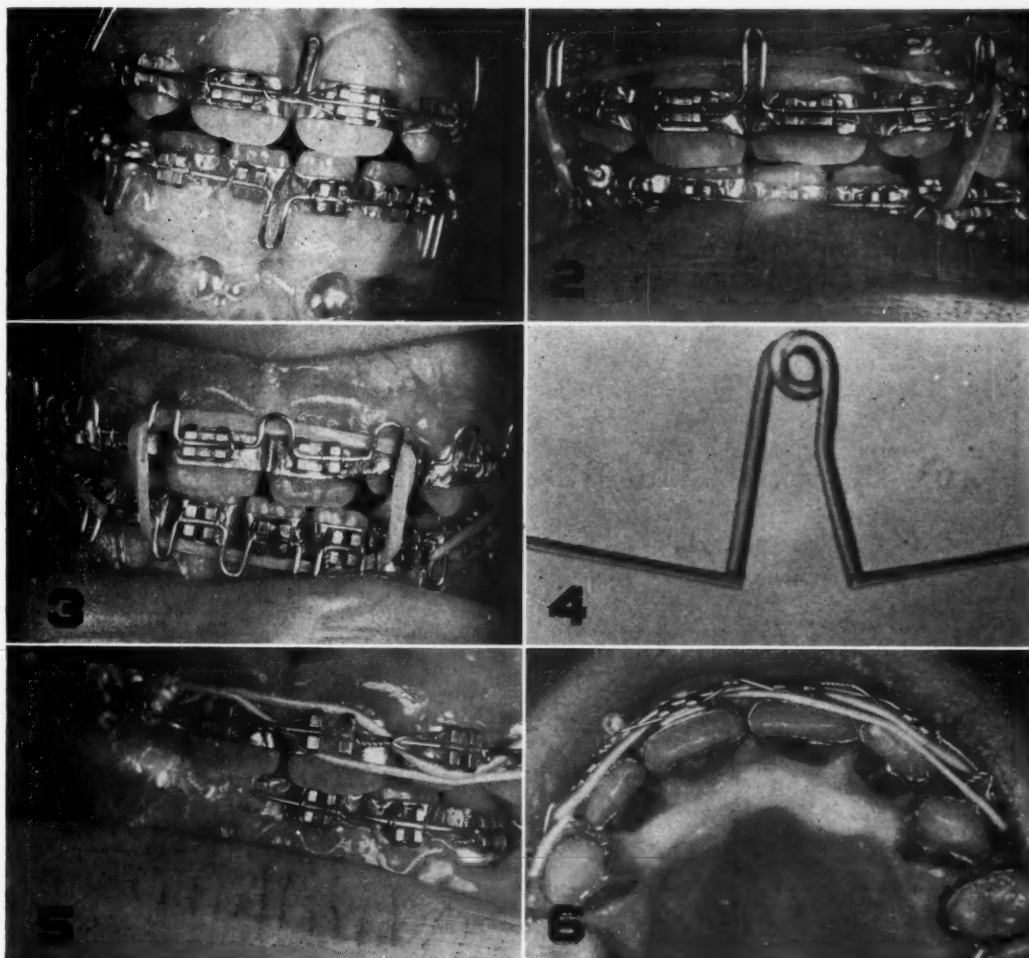


Fig. 12.—1, 2, and 3, Vertical loops and vertical elastics for closing anterior open bite. 4, Vertical closing loop for closing extraction site space (from Fischer, Bercu: *Clinical Orthodontics*, W. B. Saunders Company, Philadelphia). 5 and 6, Use of elastic thread in closing spaces.

Fig. 10.—1, Circular loop, parallel to occlusal plane, bent into 0.020 inch round arch wire to receive arm from extraoral appliance. 2, Extraoral appliance arms inserted in loops, distal to lateral incisors. 3 and 4, Loops placed mesial to lateral incisors, receiving extraoral-force arms. 5, Bite plate used in conjunction with the extraoral force. Loops distal to lateral incisors. 6, Extraoral force arms inserted mesial to lateral incisors, with palatal bite plate in place.

Fig. 11.—1, Edgewise arch wire with hooks soldered for extraoral-force arms or to receive elastics. 2 and 3, Extraoral-force arms inserted into hooks. 4, Hooks soldered distal to central incisors in congenital absence case. 5, High-pull extraoral-force appliance arms inserted on hooks distal to lateral incisors. 6, Extraoral-force appliance to rectangular arch, with bite plate. Figure-of-eight ligature tie on central incisors.

soft Elgiloy rectangular wire, tied in almost passively for three weeks, is recommended. Imperceptible autonomous modifications reduce soreness. This is done in consideration of the tissue. On the following visit, the arch can be heat-treated quickly and effectively with the help of a flash indicator paste, after the adjustments have been put in the arch where they are desired. Tie-backs on these rectangular arches are almost always necessary and are easily made by soldering brass ligature wire onto the arch wire just mesial to the molar tube.

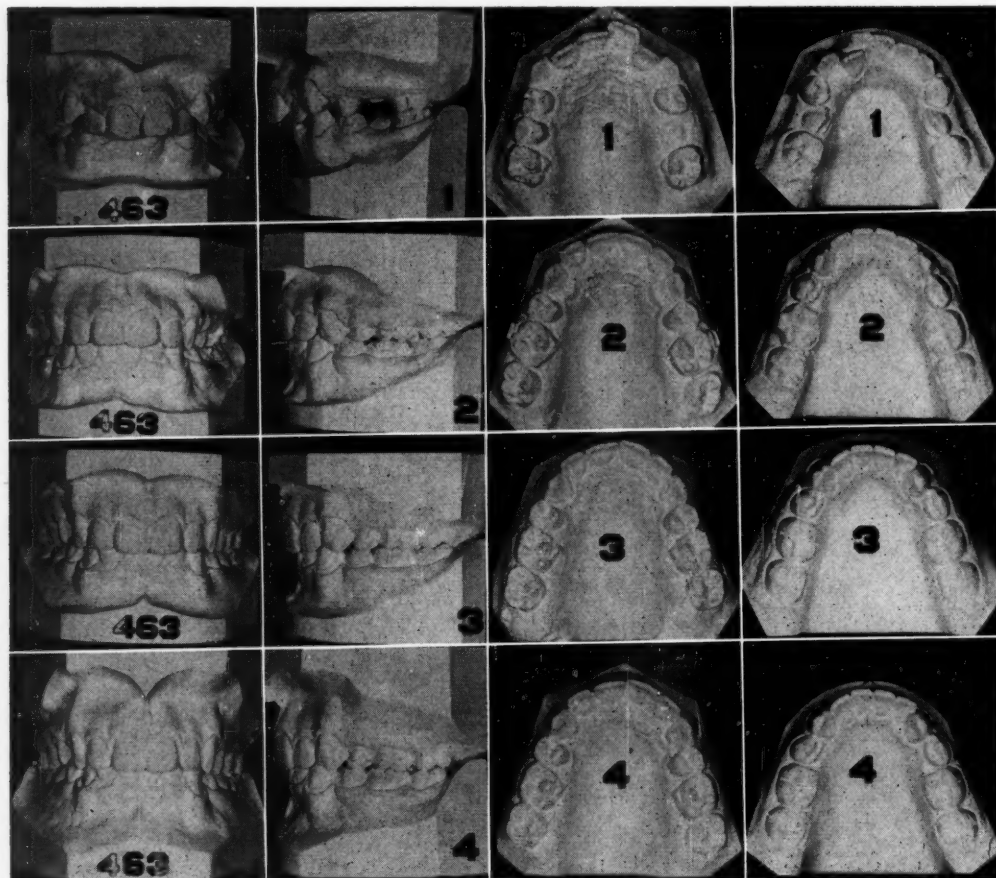


Fig. 13.

Fig. 14.

Fig. 13.—Class I malocclusion. Four first premolars have been removed. Active treatment time, fourteen months. 1, Casts before treatment. 2, When retainers were placed. 3, When retainers were removed one year later. 4, Two years later.

Fig. 14.—Occlusal views of case shown in Fig. 13.

Vertical closing loops are very effective for closing spaces, and "gable" bends in the arch ensure that the apices of the teeth next to the extraction space migrate toward each other (Fig. 12, 4). Parallelism of the roots of the cuspid and the second premolar is very important and is often the key to posttreatment stability. All too many extraction cases are treated by merely tipping teeth into the extraction spaces. Contacts are then poor, overbite return is more likely, and such conditions are not conducive to healthy periodontal conditions.

Spacing often occurs in extraction cases as the cuspids are moved distally. Tying the cuspid, second premolar, and molar together as a unit and then closing spaces anteriorly with elastic thread or strong figure-of-eight ligature ties is usually quite satisfactory (Fig. 12). When steel arch wires are used, there is a tendency at times for round steel arches to creep buccally or to return to their original shape. Care must be exercised to prevent overexpansion of the buccal segments. It is prudent to insert round steel arches with a little contraction routinely. Elgiloy, of course, holds its shape quite well after heat treatment.

Case: J.R. age:	12	14	16	16½	17
ab dif.	5.5	4.5	4.0	4.0	3.5
NS-GoGn	28.5	27.0	25.0	25.0	24.0
I-NS	89.5	93.5	88.5	91.5	92.5
I-GoGn	98.0	102.0	102.0	102.5	101.5
I-NP (mm.)	6.0	2.5	1.0	2.0	1.0
I-NS	52.5	51.0	55.0	54.0	53.5

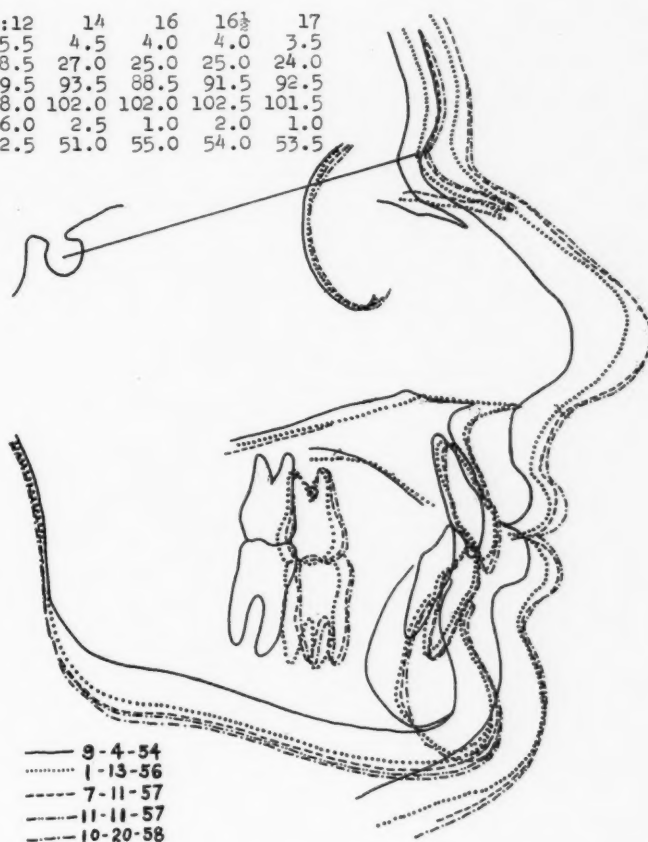


Fig. 15.—Cephalometric tracings, same case as shown in Figs. 13 and 14. The greatest growth occurred during active treatment.

In the process of coordinating arches and eliminating overbite, a transient open-bite may be created. Vertical loops can be bent in the arch wires, and vertical intermaxillary elastics will eliminate this problem (Fig. 12).

Because of the great versatility of the edgewise attachment and because more than one therapeutic demand can be satisfied at the same time, the active treatment phase of therapy for the great majority of Class I problems should be about fifteen to eighteen months and should not exceed twenty-four months. With good tissue response, optimal cooperation from the patient, and proper mechanotherapy, the time can be considerably shorter (Figs. 13 to 15).



## CLASS II, DIVISION 1 MALOCCLUSION

About two-thirds of the cases in an orthodontist's practice involve Class II, Division 1 malocclusions. Both the patient's parents and the general practitioner are more aware of these problems. This does not mean that Class II, Division 1 problems are more prevalent. In a recent study of 491 4-year-old children, only thirteen children (2.7 per cent) showed a distocclusion.

There is little reason for other than uniformly satisfactory results in most Class I problems if the limitations of pattern, arch form and size, and available space for tooth material are recognized and if individual teeth are controlled carefully during treatment. Class II, Division 1 malocclusions are in a different category, however.

Of major concern in Class I malocclusions are axial inclination, expansion, rotations, overbite, and space problems. In addition to these, in Class II, Division 1 problems perversions of muscle function, problems of overjet, and actual maxillomandibular basal malrelationship must be considered. Unquestionably, the challenge is greater in the latter. Correction of Class I malocclusions is largely in the hands of the orthodontist. Class II correction must depend on treatment timing, growth increments, growth direction, basal relationship change, and often change in perioral muscle function. No appliance alone is the answer. Not all cases in this category respond in the same way to treatment. Predominance of the morphogenetic pattern overrides all mechanical considerations. There just are not any simple, pat, easy, predetermined techniques. This will continue to be true until we can accurately predict when, how much, and in what direction growth will occur. By this, I mean *basal* growth. This again is a subject in itself and demands considerable discussion.

In Class II cases, I would like to see the patient first at about 8 years of age. Whereas appliances are seldom contemplated for youngsters in the Class I group at this age (with serial extraction the most likely service) in Class II, Division 1 problems appliance therapy may be instituted. If overbite and overjet are severe, if anteroposterior basal malrelationship is markedly excessive, if perverted perioral muscular function is making the problem more pronounced, I think that an initial attack on the problem is warranted, even though a second period of treatment will probably be necessary after the eruption of the premolars.

It is a mistake to think of all orthodontic treatment as a "one-shot" assault on the problem. Unfortunately, this attitude has been fostered by some men and some institutions using the edgewise attachment. Class II problems override mechanotherapy considerations. Since basal malrelationship is the biggest problem, I rely strongly on extraoral force (Figs. 10, 11, and 16). With maxillary incisors spaced and tipped labially, a simple 0.045 inch stainless steel labial arch receives the force from the extraoral appliances. Just mesial to the 0.045 inch buccal tubes on the first molar bands have been soldered 0.030 Nichrome Oliver vertical loops. It is a good policy to use double tubes on the molar—0.022 by 0.028 inch edgewise and 0.045 inch round. After the incisors have been tipped lingually to close spaces, a bite plate is often used (Figs. 10,

Fig. 16.

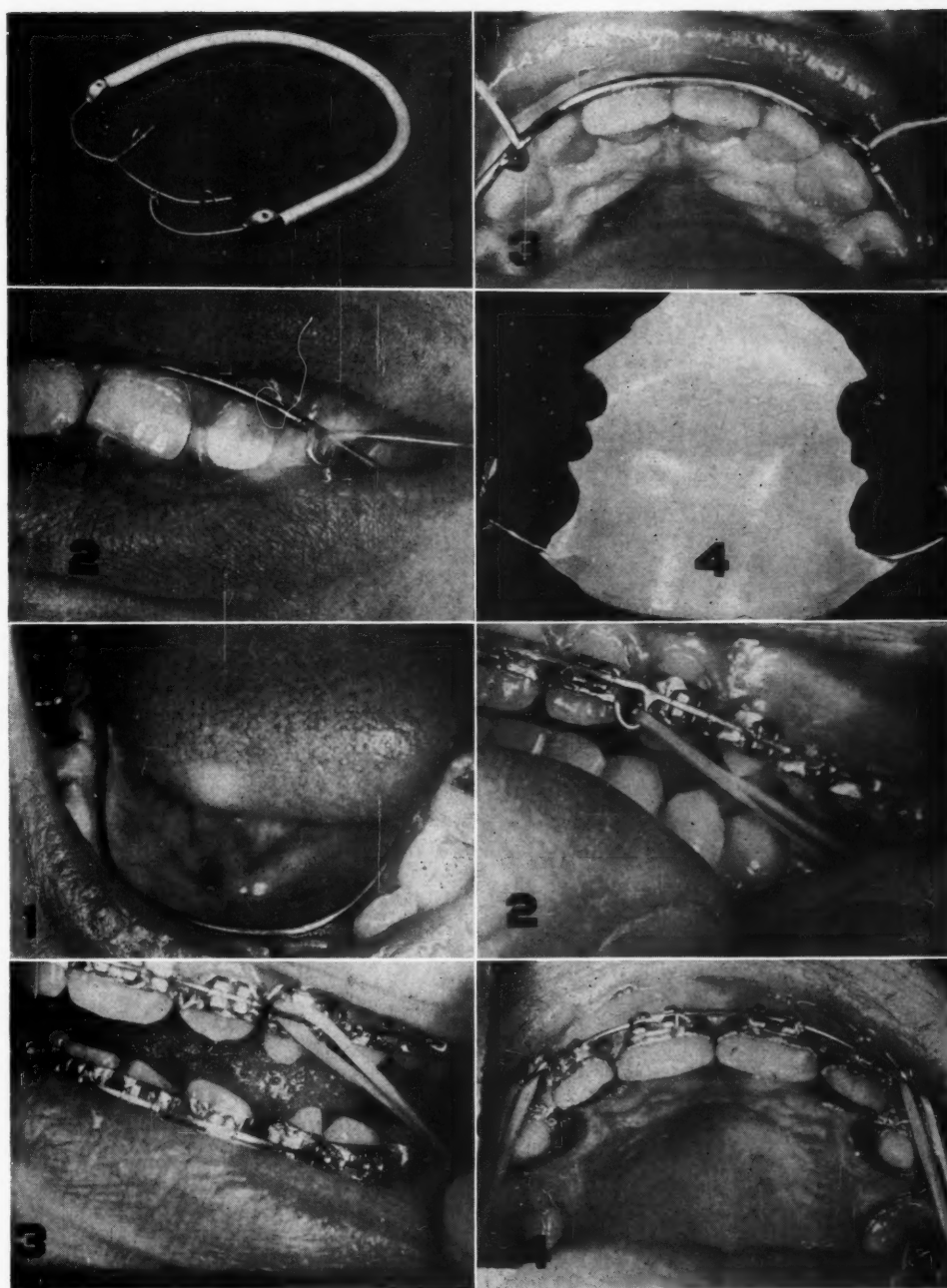


Fig. 17.

Fig. 16.—1, 2, and 3, Extraoral cervical appliance, hooked to 0.045 stainless steel round arch. Loops soldered distal to lateral incisors to receive arms. Vertical spring loops are soldered mesial to molar tubes and tied distally to maintain constant pressure on maxillary anterior segment. 4, Bite plate often used in conjunction with Class II therapy. Clasps hook over maxillary buccal tubes.

Fig. 17.—1, Soldered lower lingual arch. 2, Molar tubes soldered on buccal aspect of molar bands to receive elastics. 3 and 4, Intermaxillary elastics are used with complete banding where tooth sacrifice has been necessary.

11, and 16). Occasionally, the lower fixed lingual arch is employed for *part-time* elastic traction (Fig. 17). A prerequisite is that the lower arch form must be good and the lower incisors not too procumbent. After the maxillary incisors have been moved into an erect inclination, or if the original problem presents with upright maxillary incisors, the maxillary central and lateral incisors are banded and a 0.021 by 0.028 inch Elgiloy rectangular arch is placed, with a lingual root torque adjustment for the incisors. Stops are soldered at the molars, and hooks are placed distal to the lateral incisors to receive the extraoral appliance or part-time elastics.

Class II, Division 1 treatment in the permanent dentition offers several approaches. Depending on the factors already listed—basal relationships, muscle perversions, pattern dominance, previous treatment, etc.—a variety of therapeutic aids may be used. If the problem is not too severe, if the lower arch form is good, if muscle function is normal, etc., a lower fixed lingual arch and an upper labial arch with Class II elastics during the day and extraoral force during the night may do a creditable job of correction. Incisors may need aligning, and this would mean banding them. If they are erect and there is a danger of excessive lingual inclination of the crowns or labial movement of the roots, then a rectangular arch with lingual root torque is used in the maxillary arch. If the anteroposterior discrepancy is severe, with relatively light growth increments to be expected, or if the hereditary pattern is obviously strongly retrognathic, then the removal of the upper first premolars may be contemplated, or possibly maxillary second molars may be removed. If there is an arch length problem in the lower arch, four first premolars or upper first premolars and lower second premolars may be removed (Fig. 17). All diagnostic factors must be carefully studied; these include casts, photographs, head plates, parents' occlusion, growth gradients, etc. Merely "strapping up" the case with edgewise bands and starting to pull is not the answer. Often the decision on when to extract and what to extract is based on treatment response, or lack of response, to one approach. I often alter my treatment plan as problems arise or disappear. The man who blindly and unalterably follows a predetermined "one-two-three-jump" routine is bound to be disillusioned, regardless of the appliances that he uses. Discretion must condition the use of all appliances. There is no one way. Removal of first premolars may be quite as satisfactory as removal of maxillary second molars or no extraction with removal of third molars later on. Extraction versus nonextraction may mean trading an excessive overbite for a lower incisor irregularity later. Which do you prefer? Which is more harmful in the particular case? Which is more stable? Often, I start a Class II case with double tubes on the maxillary molars, a 0.045 inch stainless steel labial arch with Oliver loops at the molars, a lower fixed lingual arch with edgewise tubes extended at the distal aspect to accept elastics if needed, and an extraoral appliance. After three to four months, part-time intermaxillary elastics may be used or not, depending on growth increments and growth direction, cooperation of the patient, tissue response, etc. I take progress head plates frequently to help guide me in

evolving a dynamic treatment plan—a plan that is based on conditions as they are at that particular time, not a preset and arbitrary plan of action determined before appliances are even placed. Maxillary incisors may be banded at first, or later on, to control axial inclination by varying degrees of root torque (Fig. 18). An attempt may be made to correct the overbite by the use of a bite plate, or lower appliances may be placed to correct the curve of Spee. The mere leveling-off of the lower denture can add as much as 4 mm. to the arch length. Can it stand it? Are the lower incisors too procumbent now? Is buccal segment expansion feasible? Do we have to increase intercuspid width (Figs. 19 and 20)? This is a most dangerous procedure. Answers to these questions form the basis of a decision to extract or not to extract as well as what to extract. Such a decision is often made with greater validity during treatment than beforehand. If it is necessary to resort to tooth sacrifice, then maximum control of dental units is essential. This means full appliances, effective use



Fig. 18.—Illustration to demonstrate how arch wire fits into slot in torquing iron.

of intermaxillary elastics, and recourse to rectangular arches with the ability to control root movement and to coordinate arch action. While the rewards of full banding and tooth control with rectangular arches are greater, the dangers are also more real. Torque force in one segment can cause unwanted reaction in another segment. It is more difficult to see the total effect of any adjustment, as anyone who has worked with a Typodont, putting in an adjustment and then softening the wax to see its effect, will tell you. The machine fit of arch and bracket requires greater forces to overcome the binding or friction. Greater force means greater likelihood of tissue damage, such as root resorption. In other words, there is a greater danger of the appliance working the orthodontist instead of the orthodontist working the appliance. If tissue reaction is unfavorable, growth increments inadequate, growth direction downward instead of downward and forward, or if cooperation on the part of the patient is lacking, it may be hard to pinpoint the primary cause before there is an actual deterioration of the orthodontic result. Under such conditions, such adjustments as tip-back bends are particularly hazardous. It can be somewhat frustrating to end up with a Class II molar relationship, deep overbite, and four less teeth, but this can and does happen in some of the best-run practices (Figs. 19, 20, and 21). For this reason, the appliance should be no more complex than necessary to do the job. It is mechanotherapy, with the emphasis on the "mechano," to band all the teeth first and then to decide what to do. Some Class II, Division 1



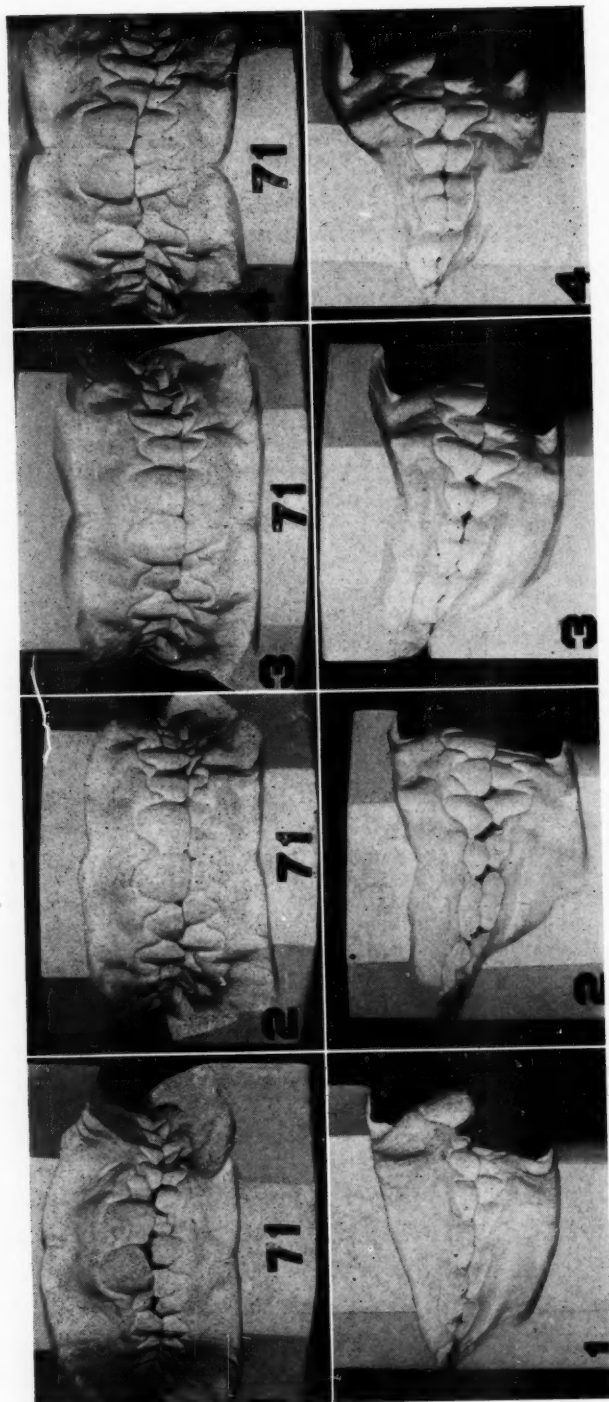


Fig. 19.—(Continued on following page.)

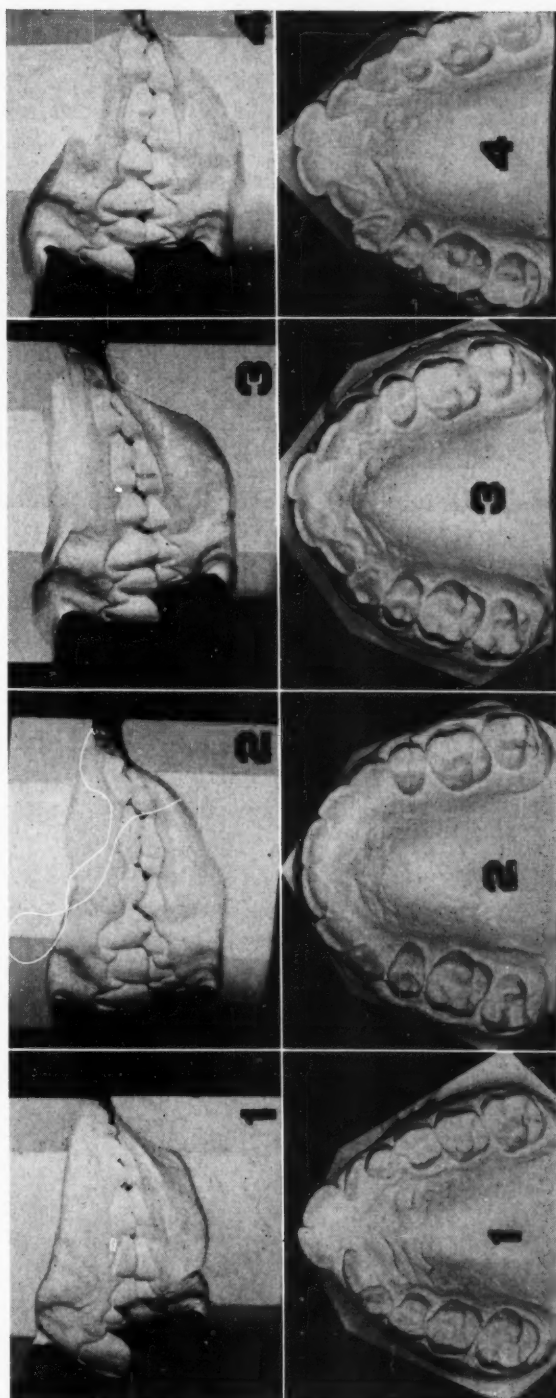


Fig. 19.—Class II, Division 1 problem, with marked arch-length deficiency. Despite removal of four first premolars and full appliance therapy, relapse toward the original malocclusion has been strong. This is particularly apparent in the maxillary and mandibular incisor positions. (See Figs. 20 and 21.)

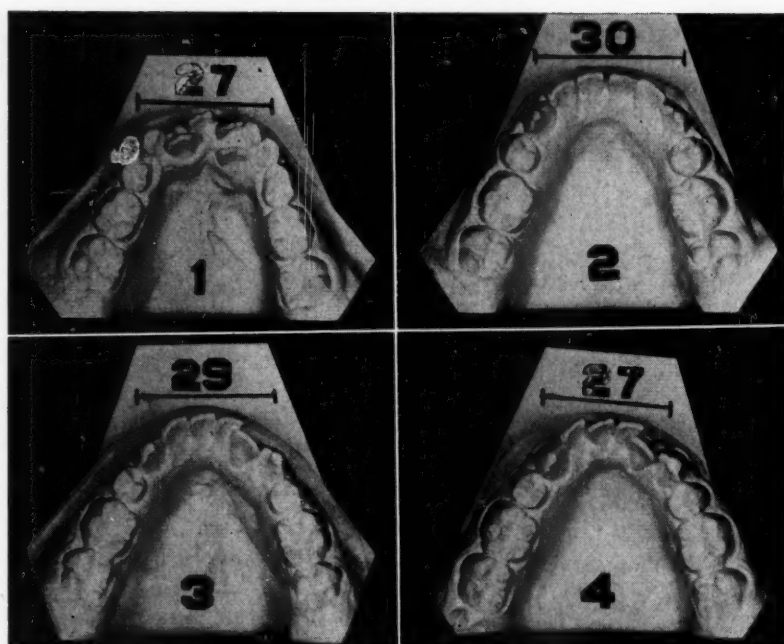


Fig. 20.—Mandibular occlusal views, same case as shown in Fig. 19. Note relapsing irregularity in anterior segment and returning intercuspid width. There is an eight-year period between cast 1 and cast 4.

Case: W.L.	age: 8	9	12	14	16
ab dif.	10.0	9.0	8.0	7.0	6.0
SNa-GoGn	51.0	52.5	55.0	54.0	52.5
U1-SNa	105.0	89.0	80.0	95.0	105.0
L1-GoGn	88.0	75.0	87.0	88.0	88.0
U1-NaPog (mm.)	22.0	15.0	11.0	13.5	15.0

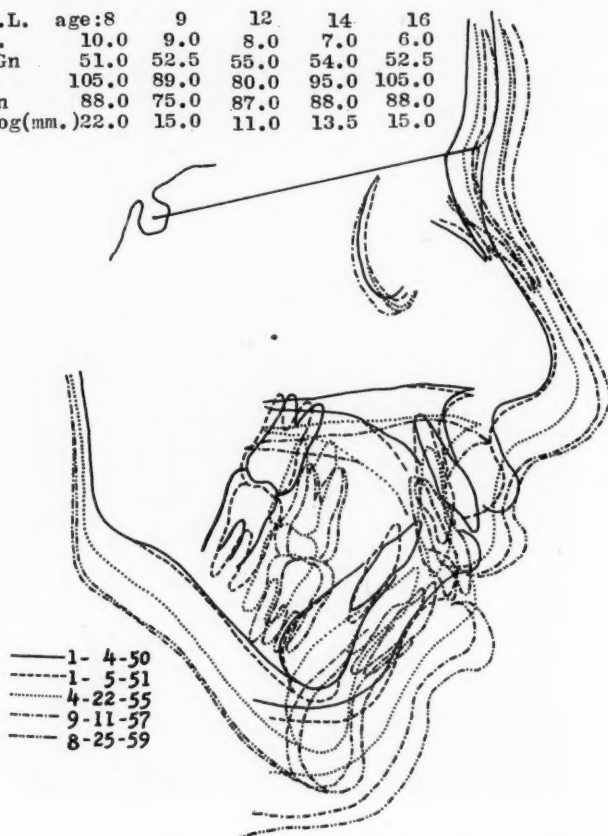


Fig. 21.—Cephalometric tracings of case shown in Figs. 19 and 20 over eight-year treatment, retention, and postretention period. Growth direction was essentially vertical, except for last two years. Steep mandibular plane has not changed. Axial inclinations of maxillary and mandibular incisors have returned to their original values.

malocclusions may require only molar bands and a labial arch plus extraoral force, as has been pointed out already. A lower fixed lingual arch may be needed in addition in some cases, or perhaps a bite plate is indicated. Maybe it will be necessary to band the maxillary incisors, and in some cases the mandibular incisors, to achieve the desired therapeutic result. In some cases, of course, tooth sacrifice and full appliance control are essential. This decision, however, must be based on valid diagnostic clues. As I have said before, no appliance should be a "procrustean bed" for any patient.

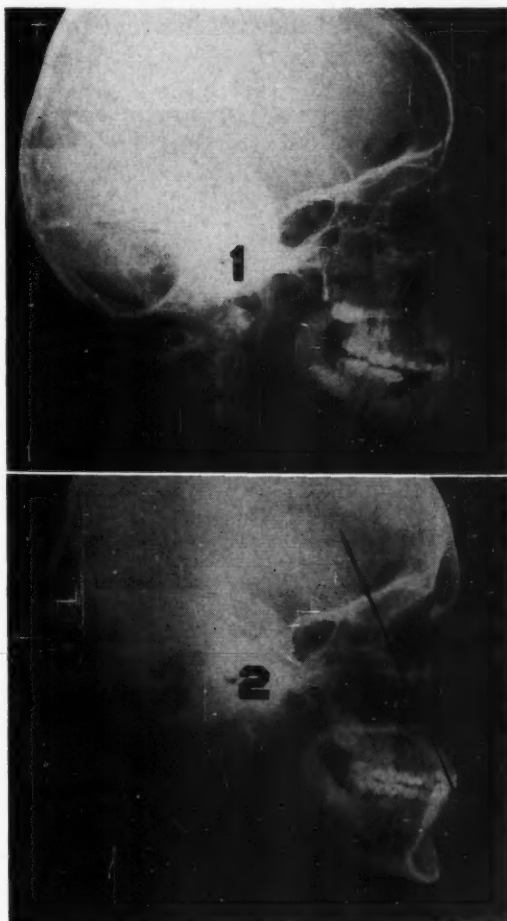


Fig. 22.—Class II, Division 2 malocclusion, demonstrating change in axial inclination wrought by torque force. 1, Before treatment. 2, Posttreatment.

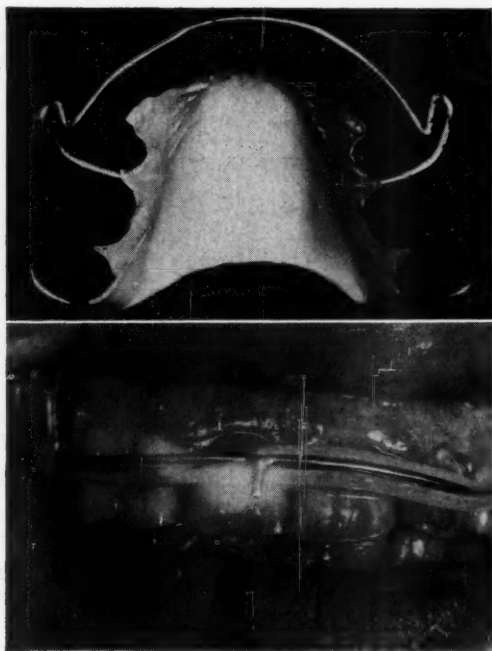
#### CLASS II, DIVISION 2 MALOCCLUSION

It is in Class II, Division 2 malocclusions that the edgewise appliance finds greatest application. The need for lingual root torque for maxillary incisors in these problems is obvious if a lateral head plate is taken. In many cases in treatment, the maxillary central incisors are merely tipped labially and aligned with the lateral incisors; then the problem is treated much like a Class II, Division 1 malocclusion. This may produce satisfactory results, but the



tendency to return to the original morphology after removal of retaining appliances seems unusually strong in these cases. Even with tooth sacrifice, which is often a part of the total approach, slowly, insidiously, almost imperceptibly, those lateral incisors rotate labially and the central incisors seem to move back lingually. The patient is more aware of this than of the gradually increasing overbite that also shows an affinity for Class II, Division 2 cases out of retention. Purely on the basis of clinical evidence, I have found what seems to be greater stability of result by banding only the first molars and the central incisors in the maxillary arch, torqueing the maxillary incisor roots lingually first, and then banding the lateral incisors in order to complete the correction.

A.



B.

Fig. 23.—A, Palatal view of retainer used for extraction case. Vertical loop is at extraction site to maintain space closure. B, Use of elastic with retainer to close anterior spaces after removal of appliances.

I create less overjet in this procedure. It is not a Utopian approach. Torque is not automatic in Class II, Division 2 cases, any more than it is in some other problems, despite the adjustment placed in the arch. In most cases, however, this seems to work out satisfactorily (Fig. 22).

Because of excessive overbite and exaggerated curve of Spee, a mandibular setup is usually required. Arch length problems are frequently associated with Class II, Division 2 cases, more so than with Class II, Division 1 problems. This means that tooth removal is often necessary. Even with tooth removal, I still torque maxillary central incisors lingually first, if at all possible. The maxillary first premolars are removed, first molars and central incisors are banded, and a passive 0.021 by 0.028 inch Elgiloy arch, with stops at the first

molars, is placed and tied loosely. After three weeks, a torque adjustment is made for the maxillary incisors; the arch is heat treated and tied strongly into place. As the desired inclination of the maxillary incisors is being achieved, there is an autonomous distal movement of the maxillary cuspids together with rotation of the maxillary lateral incisors. The remaining appliances are placed and the balance of therapy is a combination of Class II, Division 1 and Class I procedures—eliminating rotations, leveling off the curve of Spee, closing spaces, intermaxillary elastics, etc.

#### RETENTION

All patients are given retainers at the end of active treatment. I do not feel competent to judge which ones need them and which ones do not. I would rather err on the side of commission than omission. In all cases treated with tooth sacrifice as one phase of the orthodontic management, the labial bow of the retainer is inserted in the acrylic posterior to the extraction site or usually the embrasure between the second premolar and first permanent molar (Fig. 23). Elastics are often used in conjunction with removable retaining appliances to keep spaces closed. If excessive overbite was one of the original galaxy of symptoms a bite plate is incorporated on the retainer. Very probably my patients wear retainers longer than necessary, about one year. Stability is tested by gradually reducing retainer wear, but empiricism seems to be the guiding rule for one phase of orthodontic care about which we all know too little. To paraphrase Hamlet, "To retain or not to retain, that is the question. Whether it is nobler to suffer the rotations and relapsing overbite now, or to hold on indefinitely—that is the question!"

450 GREEN BAY RD.

## REMARKS CONCERNING THE AMERICAN ASSOCIATION OF ORTHODONTISTS

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GEORGE M. ANDERSON, D.D.S.,\* BALTIMORE, MD.

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THE American Association of Orthodontists has been a fast-growing organization. It is natural that we have had and continue to have growing pains. They come from within our ranks and from related organizations. One problem which affects the president in particular is the difficulty that he encounters with respect to the meeting dates of constituent societies. These meetings come in too brief a period, making it impossible for your president to attend each one. Yet, with our extensive activities and our rapid growth in number and in administrative problems, he should visit constituents and get to know about them even as the constituents should get to know about him. A more compatible arrangement should be made and, though it will be quite a job, this can be done if and when our permanent full-time administrative employee organization comes into being. Your officers are kept busy; my correspondence and the time required to consider these activities are hard to believe. I took no out-of-city vacation this year, and it has been necessary for some time to curtail my practice in order to face the varied responsibilities properly. Every day the hours from 10 to 1 are set aside for A.A.O. work, as are several evenings a week. Because it is necessary for the good of the organization that the president-elect, the vice-president, the secretary, and the nominee know in detail what goes on, my office sends them copies of correspondence and information as to matters under consideration. This involves much labor and also the addition of files, a Thermo-Fax copying machine, an electric typewriter, and out-of-office secretarial assistance. The result is a well-knit group of officers ready to serve when the time comes, and I give C. Edward Martinek credit for setting the example.

It will, therefore, be a happy moment when we alter our operating format so that full-time A.A.O. employees can aid your officers. When Dr. Martinek called attention to the increasing load of work, he spoke the truest of words.

A committee recommended by the Board of Directors is at work, with Boyd Tarpley as chairman, on a plan which will be presented in Washington for the Association's consideration. It not only will consider an administrative or executive secretary or a full-time employee-elected secretary arrangement,

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Presented before the Southern Society of Orthodontists in Atlanta, Georgia, Oct. 13, 1959, and before the Northeastern Society of Orthodontists in Hartford, Connecticut, Oct. 26, 1959.

\*President of the American Association of Orthodontists.

but it will delve into the problem of annual meeting arrangements directed by an experienced management concern. We are too big (over 2,000 members) for a couple of practitioners to continue to do all the necessary work between meetings without full-time assistance, and there is probably no greater waste of effort than to have a local arrangements committee work intensely to put over a well-run annual meeting and then have it cease functioning when the meeting is over, with the Association losing all of that committee's valuable experience and know-how. A new group in another city has to learn and do it all over again. Our members are busy practitioners who give up hours of practice time and also work evenings for one or two years toward the success of a meeting. It is a great effort, and the burden should be lessened by employing competent assistance.

The Manual Committee (Scott Holmes, chairman) has been asked to study the structure of our Association, since we are becoming too big for many hotels to provide the necessary accommodations for our scientific sessions. We can often get bedrooms through several hotels, but the ballrooms and the other fairly large spots that are needed often are not available. Therefore, it is possible that concurrent lectures may have to be given with each speaker speaking twice, or it may be necessary to divide into scientific sections to fit space and attendance. A round-table luncheon may require a room to hold 1,000 seated at tables in addition to similarly large lecture and commercial exhibit rooms. The limited-attendance clinics require about twenty-five rooms able to hold from thirty to sixty people each. This year we plan to use two ballrooms; the overflow in one will hear and see by means of television.

The Necrology Committee was revised last year, so that it now is made up of a member (usually the chairman) from each component society. This committee, with William Smith of California as chairman, is at work to aid survivors, lawyers, and executors in the beneficial settlement of a practice by providing information and assistance when death strikes. Years ago Stenson Dillon emphasized this but we did not follow it up. Now, following several sudden deaths (including those of Bernie Lloyd, our 1960 local arrangements chairman, and Russell Huber, our Round-Table Luncheon chairman), we want to start finding out what has been done and from the study decide what else may be done to lessen the confusion and difficulties incident to illness and death. A lawyer executor has made three basic suggestions: (1) have a take-over agreement with another orthodontist, (2) at the start of a case inform parents of this eventuality, (3) in your will authorize the executor to dispose of your practice in the best way possible but at his discretion. We expect to have some questions to ask you which, we hope, as you answer them (to yourself) will impress on you the need for thinking more specifically about this serious matter.

The Qualifying Committee (Lyn Carman, chairman) is composed of the chairman of each constituent's qualifying committee. Its duties are to gather data and to consider, appraise, and evaluate standards relative to membership which are involved with the education of an orthodontist and eventual Society



membership. There is probably no more difficult field in the varied administrative activities of your Association, for the preceptorship problem has been, and still is, a difficult one. It is argumentative and there is dissatisfaction in the dental profession and within our specialty.

This year the American Dental Association, through its Council on Dental Education, planned to propose to the A.D.A. House of Delegates a series of controls over specialties and specialty boards with which, when we learned of the situation, we did not agree. Your president, the Education Committee, (Edward Forrest, chairman), and representatives of the American Board of Orthodontists (Drs. Bowyer and Dewel, appointed by A.B.O. President Higley) attended a hearing in Chicago in July and another in New York in September to protest certain administratively difficult and, as we saw it, unnecessarily oppressive rules. As an example of the proposed rules, the A.B.O. would be required to examine its diplomates annually. Our recommendations were accepted, and a supplemental report was developed, incorporating certain agreeable changes which the House of Delegates approved. Some problems still remain. The preceptorship time limit was first set for 1962; it is now 1967, and I might add that many groups do not approve of a preceptorship program.

Another problem resulting from American Dental Association activity, this time through its Council on Dental Health, and House of Delegates action, is Denti-Care. This, if adopted by our government, will supply dental service, including orthodontic care, to military and civilian governmental employees and their dependents. The Public Health Committee and the Public Relations Committee of the A.A.O. have been asked to study this problem for, while the House of Delegates went on record as not being in favor of requesting, initiating, or supporting Denti-Care, it did approve preparing to guide the government in its consideration in case Denti-Care becomes an issue.

We were instructed to appoint an Insurance Committee (Nathan Gaston, chairman), and you have received material relevant to a disability income insurance policy. We believe this to be a good policy, one which has some advantages not usually available. The cost of illness is extremely high these days and even the most conservative and well-prepared person finds an assured source of cash a real asset in time of need. This committee was also asked to make recommendations as to "office overhead insurance" in case of illness, but there is considerable difference of opinion concerning the value of this type of coverage. Even so, it can be obtained now on an individual basis. We do have our illness and disability policy in effect for those who see the need for it.

Through an appointed Related Organizations Committee (Ernest Klein, chairman), we are also working with the pedodontic and pediatric societies for the study of mutual problems. We were represented at the Conference of National Organizations on Children and Youth, on September 21 and 22, by Drs. Salzmann (chairman, Public Health Committee) and Erikson, and we will be invited to appoint two nominees to the 1960 White House Conference on Child Growth.

The American Association of Dental Schools has appointed a committee to study minimum standards of graduate and postgraduate programs in orthodontic education, and our Education Committee is alert to this problem. We are fortunate to have a member of our committee, Dr. Moyers, as a member of the A.A.D.S. Committee. Because of certain remarks made by Dr. McNulty at the American Dental Association's Reference Committee hearing in New York, when he stated that orthodontic teachers were hard come by, we are initiating an inquiry of our members as to (1) who would like to teach, (2) their qualifications, (3) whether they want to teach full time, or (4) part time, (5) where they would like to teach, etc. Our Education Committee has also been asked to consider holding a workshop relative to orthodontic education, and it is hoped that this may become more than just a possibility. The A.A.D.S. has shown an interest in such a workshop. It would cover undergraduate, graduate, postgraduate, and preceptorship training, extension courses, and short-term courses for the general practitioner, for which there seems to be a demand. In addition, the workshop would take up problems of financing, facilities, and staffing.

We have a tax status problem. It was brought about by Mrs. John V. Mershon's creation of a splendid trust fund in memory of her distinguished husband. The trust company requested information as to our tax status. Dr. Shepard made inquiries, and we find a reply which is not very satisfactory. In fact, it is very disturbing. Therefore, we have a complication which must be solved, and the services of a tax expert may be required to bring about a satisfactory conclusion.

These are some of the major issues with which we are working. There are others. For instance, although we are in good financial condition, there is a question of sufficiency of dues. It is my belief that we must provide opportunities for directors and committee meetings between sessions if our responsibilities are to be fully met. As an example, we are asking the committee studying the secretarial problem to meet in St. Louis during November, and since we are a national organization that is costly. The expense of organizing and conducting our annual meeting is also great. Each year more has been budgeted for it, and yet we are finding it difficult to keep within prescribed limits. In connection with this money problem, I have learned that the A.A.O. is not charging nonmembers an attendance fee equal to that which is charged by several of our constituent societies. Is this correct? Should this be changed? A person who is permitted to attend our annual meeting gets a lot for a little.

Your officers and committees, with Dr. Graber as general chairman, Dr. Erikson as vice-general chairman, Dr. Reid as program chairman (with Dr. Bowyer in charge of limited-attendance clinics, Dr. Gaston responsible for general clinics), and Dr. Hoffman in charge of local arrangements, are deeply involved with the program and arrangements for the 1960 annual meeting which will be of an international character. The details are numerous, and the decisions are often complicated. We believe that we should know more of what others are doing and that they should know more of what we are doing. As a result, we also have the pleasure of meeting confreres in person,

many of whom we otherwise would never see or know. Thus through all our efforts runs the desire to provide for our members an educational program worthy of our field and a social gathering which will permit us to make new friends and renew, under most desirable circumstances, old friendships.

We hope that you will be with us April 24 to 28, 1960, in Washington. You will have the unique opportunity of hearing of orthodontics abroad as compared with American orthodontic thought and procedure. Drs. Adams of Ireland, Lundström of Sweden, Reitan of Norway, De Castro of Brazil, Begg of Australia, and Tweed, Martinek, and Oliver of the United States will be essayists. Dr. Ricketts will present a condensation of his A.B.O. thesis, which will be published promptly in complete form. For our limited-attendance clinics, we shall have Drs. Scott of Ireland, Ballard of England, Korkhaus of Germany, Hotz of Switzerland, Lager of Denmark, Kjellgren of Sweden, Maj of Italy, Dockrell of Ireland, Hovell of England, and Harvold of Canada, balanced with a group of well-known United States orthodontists and some of our own members from Canada and Mexico. This international theme is well conceived for the meeting in our nation's capital. For many reasons, such meetings must be infrequent, and we urge your attendance at this one. There will also be a round-table luncheon, general clinics, the annual Golden Anniversary Luncheon, a meeting of Research Section (Herbert I. Margolis, chairman), the Hellman Prize Lecture, and a report from J. A. Salzmann on the Second Cephalometric Workshop. The Albert H. Ketcham Memorial Award will be directed as usual by the American Board of Orthodontics (L. Bodine Higley, president), and the recipients will be Sheldon Friel of Ireland and Charles H. Tweed of the United States. The ladies will not be forgotten, and the sightseeing in Washington hardly needs any explanation.

The meeting is going to be a busy one. Maybe you had better plan to come a day or so before it begins or stay a day or so after it closes.

## ECONOMICS FOR PROFESSIONAL MEN

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M. JULES KING,\* ST. LOUIS, MO.

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**I**T WAS my privilege to appear before your group in 1952 and again in 1955. My story has not changed, but the players have changed in a fast-moving economic situation and under an emotional conflict brought on by unsettled world conditions.

As men advance in age, unforeseen problems develop in response to many influences outside the routine of managing a profession.

My job here today is to help you. I have been closely associated with orthodontists since 1932. I believe Dr. Payne had this in mind when he invited me with the idea that I could bring you some experience and possibly give you a pattern, something that may add to your life's purpose and help you to perfect the things that you may dream about and want to do but for which you just need a little direction.

God created us with similar fundamentals but with free will. That is where trouble starts. There is a personal human element involved in your business endeavor.

Your success as an orthodontist may be measured by your financial result or the quality of your service. Some people believe that the amount of money or property that you accumulate measures your success. If that were true, why do men of wealth develop ulcers or even end their own lives by suicide?

Your success really should be measured by your faith in yourself, in what you are doing, and your degree of happiness or security. What is faith? Faith is an intellectual assent to something that you do not know. If you know it, it is not faith. If you know it, you own it. Faith is not something to own—it is a continuance of life involving much hope.

Men need a continued form of education. A man in professional life has the greatest opportunity to serve his God, his country, and his family. He has even a greater assurance for security if he will clearly define his philosophy or develop a true philosophy that will make his life a useful one for as long as he lives, preparing for eternity in the hereafter. There is much work to be done, regardless of your age. A professional man must not only provide for an expanding health service: he must also cope with high taxes, business records, personnel management, family support, competition in business, self-improvement, and old age. The greatest competition he may have is the demand on his productive time to manage the affairs of his life.

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Presented at the thirty-eighth annual meeting of the Southern Society of Orthodontists in Atlanta, Georgia, Oct. 14, 1959.

\*Public accountant.



My approach to these problems is a review or inventory of the present. The reason that a man's sense of value changes is influenced by his accumulated knowledge. I find that in later life things take on a greater meaning than they did originally; hence, some things increase in value and some are not as important. We have been the victims of our own ego. We could be the victims of our own self-importance. But, enough of that. I say that as long as a man has a breath of life he has a job to do in either advancement or maintenance of his advanced position adjusted to new conditions in his life preparing for the termination of life.

Therefore, your philosophy must be developed and measured against life itself. I find that men grow old and they have not provided for the termination of their earning period. When a man dies, his family seeks a new source of income. When a man retires, he seeks an income to supplant his earned income. The same thing prevails in disability.

There are only two factors—time and source of income.

I attempt to classify your position in three parts or periods:

1. Beginning a career
  - In debt.
  - Large obligation.
  - No capital funds.
2. Self-supporting income
  - Paying on debts.
  - Building equities in property.
  - Advancement in income.
  - Educational improvement.
3. Surplus period or terminal of life
  - Income above requirements.
  - Surplus for investment.
  - Completing higher education of children.
  - Inability to cope with increasing demands for professional service.
  - Retirement.
  - Business adjustment.
  - Final estate planning.

At this point a financial balance sheet or inventory is necessary.

I want you to see something in figures that is seldom portrayed, but my purpose is to emphasize its significance to your potential while there is still time for adjustments. Suppose at age 65 a man has a net worth above life insurance of \$292,700.00, distributed as follows:

Cash	\$ 2,700.00
Savings or building and loan	5,000.00
Special funds	2,000.00
Cash value—life insurance	32,000.00
Securities—corporate	130,000.00

Bonds—municipal and United States	
Government	49,000.00
Residence	50,000.00
Automobile—two cars	4,000.00
Equipment—office	10,000.00
Other assets	8,000.00
	<u>\$292,700.00</u>

In summary, this inventory will produce:

A. Dividends	\$ 5,200.00
B. Interest—bonds	1,470.00
C. Interest on savings	150.00
	<u>\$ 6,820.00</u>

Suppose this man has a budget as follows:

A. Household	\$ 8,000.00
B. Personal	2,000.00
C. Life insurance premium	2,000.00
	<u>\$ 12,000.00</u>

He needs an income of this amount, exclusive of education of any children still in school, which means a deficit of \$5,180.00 per annum if he was thinking of retirement. He needs at least \$125,000.00 additional investment funds at 4 per cent to remain constant. This man's position, as related to the continuance of his business in which he has been active, is obvious.

Now, regardless of whether this could be applied differently with others, it would seem important to determine how much a man must save to arrive at a net worth position as per this outline.

A man at the age of 37 has twenty-eight years to earn money before reaching the age of 65, and he must earn sufficient income above business expense, living expense, and taxation and still must save at least a yearly average of \$8,159.00 to reflect the financial inventory of \$292,700.00.

In this illustration the facts are that \$3,857.00 per year must be invested in assets that produce no income to meet living and working requirements of a capital nature. The balance of \$4,302.00 annual investment at 3 per cent compounded will produce \$184,700.00, provided there are no losses.

\$4,302.00 per year at 3 per cent =	\$184,700.00
\$3,857.00 per year—noninterest =	\$108,000.00
\$8,159.00	<u>\$292,700.00</u>

An annual savings of \$8,159.00 can be assured from a gross income of \$45,000.00 to \$55,000.00, based on 15 per cent savings of gross income.

Step No. 2 in the inventory would reduce this to facts by working out a detailed outline of the distribution of the annual income following a budget outline as follows:

- A. Business cost
- B. Family living expense
- C. Personal expense
  - 1. Daily
  - 2. Donations
  - 3. Vacation
  - 4. Tuition—children
  - 5. Auto replacement
- D. Interest and taxes
- E. Savings
  - 1. Life insurance (permanent)
  - 2. Reduction of debts
  - 3. Cash margin for investment
  - 4. Noninterest-bearing assets

Step No. 3 must outline all obligations, both short-term and long-term.

In this illustration, we will use a young man with a mortgage on his residence and a bank loan for his automobile. A man will spend \$50,000.00 during his lifetime on automobiles and end up with the current market value in his estate on his latest car purchase. The outline is as follows:

		<i>Annual</i>	<i>Monthly Average</i>	<i>Monthly Budget</i>
1. Business Cost Total		\$17,076.42	\$1,423.00	\$1,423.00
2. Household		4,585.08	382.00	450.00
3. Personal				
Daily	\$2,411.08			150.00
Donation	698.00			100.00
Vacation	200.00			50.00
Miscellaneous	287.70			50.00
Automobile	2,319.68	5,921.67	493.00	100.00
4. Interest	512.39			
Taxes	8,853.20	9,365.59	780.00	715.00
5. Savings		10,432.30	869.00	910.00
		\$47,381.06	\$3,948.00	\$3,948.00
Savings—Cash		\$ 1,235.51		
Life insurance		2,894.17		
Mortgage		1,593.37		
Office equipment		51.45		
Bonds		150.00		
Land		6,507.80		
		12,432.30		
Less: Capital funds		2,000.00		
		\$10,432.30		

*Note:* In this budget a monthly average of \$910.00, or a yearly average of \$11,020.00, can be saved with no provision for education of children except from savings. Education is figured at \$15,000.00 total for each child. And, of the total savings, \$4,500.00 will be noninterest bearing for some time, so there is a questionable net savings toward a permanent estate of approximately \$6,500.00 per year.

Compare this with what you are doing and you will no doubt find some lost motion and too much emphasis on the wrong investment.

The most apparent observation is that a man will be dependent on his income for the right to live and dependent on his earnings for the right to survive. That is the reason that I devote most of my emphasis on the cultivation of your practice with no thought of retirement from professional life.

The development of these facts and figures provides the basis for determination of fees and minimum and maximum case load. In other words, suppose a man is treating 200 active cases at an average fee of \$300.00 per year. This means \$60,000.00 gross income or an average income of \$40.00 per hour, with an average cost of \$13.00 per hour. If you had a ratio similar to this and could save approximately \$10,000.00 per year, do you have any sound reason for increasing your fees? That is a responsibility that you as an orthodontist have toward the security of your profession, as fair to yourself and your patient. In addition to the above, you may have examination fees, observation fees, and visit charges.

This entire analysis leads us to your management and personal development. It may be apropos to meditate on your viewpoint and your mental attitude toward your accomplishments. A man with ulcers generally is a man of property. It seems like poor pay. A poor man may be jittery, but he is not as conscious of what he has to lose as is a man of wealth; hence, the different viewpoints.

The next thing would be your control of your business. Do you know at all times your margins—your maximum load and your individual standpoint as a man, an orthodontist, a husband, a father, and a provider? Do you have too much to carry in debts or too much to carry in business? Each man needs some guidance and help.

The problem that is uppermost in the minds of so many orthodontists today is not earning money but adjusting to a case load too heavy for one man. Very few orthodontists have a case presentation problem or a problem of developing new business, which is quite different from the depression years.

The high spot in the approach for help in the treatment of patients may be classified as follows:

1. Are you economically ready?
2. Are you temperamentally adjusted?
3. Type of assistance.
4. Financial arrangement.
5. Legal association.



You have a service that is more than self-sustaining and is rich in resource and origin. A man going into an orthodontic practice does not, of necessity, purchase a practice. A man in practice does not, of necessity, divide his practice.

The first approach to the question of help is the number of cases that cannot be started and also the cost to you of obtaining help to absorb this backlog of cases.

Some men, having come up fast, reach a peak load of eighty or ninety cases and then think that they need help in the form of a partner or assistant. Actually, such a man should examine his own time application, eliminating lost motion and improving his technique and procedure to that objective before seeking assistance from another orthodontist, whether it be preceptorship or a graduate orthodontist.

Now when you find yourself with an efficient situation and no lost motion, as well as a backlog equal to a year's normal business, you would be ready to explore the possibilities of an associate. A man who intends to continue his own activities on a full-time basis should defer a partnership arrangement and confine his thinking to that of an associate.

An approach to an associate must take into account (1) your problem, which is immediate, and (2) the prospective associate's problem, both immediate and future.

You are in a financial position to pay compensation relative to maintaining a peak load which is self-sustaining, or you can divide your practice on a percentage basis which might have the same effect but could not be managed consistently with the progress of an associate. Therefore, I would suggest a flat salary allocated directly to handling the increased case load. This salary would be figured in relation to your backlog of cases and would be a minimum sufficient to give family and personal support that is adequate for the purpose.

You would then add to this amount the income from business originated by the new associate so as to assure him of a guaranteed income of a certain amount. Any income over and above this would be subject to a pro rata portion of fixed business expenses. This would be a flexible arrangement to be adjusted as the respective practices fluctuate. An associate may start with a \$5,000.00 salary and a guarantee of no expense until the associate's income from his patients equals his salary. This would provide a steady income of \$10,000.00 minimum, once it is maintained, over which amount the associate would pay some portion of rent, etc. If the entire office increases its net profit, this minimum can be adjusted to a higher level, but the salary is never changed unless the associate becomes so involved in his own practice that he no longer can render any assistance. This example is purely an illustration and is varied to meet the situation. A partnership may be developed later if the senior member wants to reduce his time allocation or becomes disabled.

There are many possibilities as a result of these associations, particularly for coverage when one orthodontist is on vacation or disabled, temporarily or permanently, or in case of death necessitating disposition of the practice.

SUMMARY

A professional man is never through. He needs to arrange his estate to take care of changes in his practice at his death and also he needs a complete arrangement to carry out his intentions for his family.

To get to that point, he needs a systematic plan of monthly saving clearly reflected in a budget by anticipating his expenses and adherence to his plan. He would need an understanding of the needs for income-producing property in the form of corporate securities or other types of property supported by a certain amount of liquidity. He should allow for estate and death taxes and use both an attorney and a trust company to provide legally for the protection of his family.

Plan your life well. Your best security is a managed practice within certain limitations for a long life as against covering all the field for a short duration. History will prove that under present economics your best protection is to keep your practice stimulated indefinitely, rather than to make a supreme sacrifice to do the impossible in trying to replace your earning power in its entirety.

418 OLIVE ST.

## CEPHALOMETRICS AND LONGITUDINAL RESEARCH

ERNEST H. HIXON, D.D.S., M.S., IOWA CITY, IOWA

MEASUREMENTS obtained from radiographic films include a certain amount of error. The amount of chance error that can be tolerated depends upon the purpose for which the measurement is taken. Such errors, especially those errors arising from angular measurements, can usually be ignored in orthodontic diagnosis, as the magnitude of the error is very small in comparison to the size of the common facial measurements. Furthermore, differences between individuals are so much larger than the measurement errors<sup>1</sup> that the clinician is ill advised to interpret variations or errors of 2 or 3 degrees as meaningful differences.<sup>2</sup>

At the other extreme, a study of the changes which occurred during orthodontic treatment or a study of the rates of normal facial growth from one year to the next requires high precision in measurement. Suppose the actual size of a dimension, such as facial height, increased 1 mm. from age 13 to age 14. If the cephalometric measurement at age 13 contained a 0.5 mm. error (which it easily could) and the measurement at age 14 also contained a 0.5 error, a comparison of the cephalometric measurements at these two ages could show (1) no change, (2) a 1.0 mm. increase, or (3) a 2.0 mm. increase. If orthodontic treatment had been undertaken during this period, the failure to recognize measurement error could lead to three different conclusions: (1) that treatment inhibited the rate of growth below its expected level, (2) that treatment had no effect, or (3) that treatment stimulated the rate of growth beyond its expected level. Likewise, the amount of error included in a cephalometric measurement may be crucial to the interpretation of longitudinal analyses concerned with rates of growth. It is necessary to minimize measurement error to obtain measurements that approximate true biologic change from year to year. The failure to recognize this problem has led to many statements concerning waves of growth, growth spurts, and irregularities of growth which could represent unreliability of measurement rather than biologic change.<sup>3</sup>

The advantage of such a longitudinal approach (analysis at two or more ages) lies in the fact that patients may be portrayed with respect to rates of growth, patterns of growth, or effects of treatment. As pointed out by Meredith,<sup>3</sup> "Curves drawn to measures of central tendency do not afford an incisive understanding of growth processes or lead to discovery of relations between

The equipment described in this article was purchased with the help of research grant D-217 from the Institute for Dental Research of the National Institutes of Health, United States Public Health Service.

processes. Until central tendency trends have been compared with individual trends, it is not known what meaning they have biologically. It follows that those who study human growth should chart a course between average curves that confound morphologic processes and individual curves in which morphologic processes cannot be disentangled from measurement errors. This is a difficult and time consuming course, yet one facilitated by the investigative soundings of earlier navigators." For a given level of accuracy (say, within 0.5 mm. at the 1 per cent level of confidence), however, estimates for each individual measurement in longitudinal analysis require far more stringent measurement procedures than are required for like estimates of central tendency (averages). With such averages (sample descriptions, norms, or population estimates), many of the random sources of error will cancel each other. For studies on the reliability of certain cephalometric measurers, the reader is referred to Björk<sup>4</sup> and Hatton and Grainger.<sup>1</sup>

It is the objective of this article to (1) call attention to the known sources of error, (2) suggest some techniques for reducing these, (3) describe an installation for obtaining cephalometric films for a longitudinal study, (4) mention some possibilities for further improvement, and (5) mention some compromises imposed by radiation hygiene.

Blurring of the landmarks on the films contributes to the unreliability of cephalometric measurements. Thurow<sup>5</sup> lists as the factors which cause blurring: (1) motion of the subject or machine, (2) optical blurring which is dependent on the size of the x-ray anode focal spot, and (3) grain caused primarily by intensifying screens. Another factor, especially in older subjects, is secondary radiation from the facial structures. An attempt was made to minimize blurring in the radiographic equipment installed in the longitudinal Facial Growth Study at the University of Iowa. The essential features of this equipment include a generator with a line compensator capable of delivering 120 kilovolts, an electronic timer, a rotating anode tube with a 1 mm. focal spot, and a Potter-Bucky diaphragm with a 16:1 grid as described by Cartwright and Harvold.<sup>6</sup> Motion of the equipment has been eliminated by use of heavy mountings, and motion of the patient has been controlled by use of short exposure times (0.2 to 0.4 second for lateral films and 0.4 to 0.6 second for posteroanterior films). With the high-kilovolt technique and the Potter-Bucky diaphragm, one can achieve images of the structures in the dense temporal area (heads of the mandibular condyles) without burning out the images of the fine bony landmarks of the nasal area and the soft tissues. This penetration of the denser structures and the reduction of secondary radiation by the grid in the diaphragm improved the quality of the films, particularly in the older (teen-age) subjects. Optical blurring (penumbra) is minimized by the use of a tube with a small focal spot and also by the use of a large tube-subject distance. The 1.0 mm. effective focal spot is less than one-half the size of the focal spot of most tubes with stationary anodes. Those considering installations where blurring is important should investigate the use of tubes with even smaller (0.3 mm.) focal spots.

In our equipment, the distance from the focal spot to the film in the cassette was set at 174.57 cm. to keep within the maximum focal length of the grid.



Harvold<sup>7</sup> has since pointed out that it is not necessary for the tube-film distance to be limited by the focal length of the grid in order to reduce the penumbra effect. Exceeding the grid focal-length distance reduces radiation primarily at the edges of the grid, a desirable circumstance since the images of the lighter facial bones lie in this area. In our installation an aluminum wedge is used to reduce radiation to the facial structures for lateral films. This permits sufficient exposure to a single film to give an image of the heads of the mandibular condyles (with the teeth in occlusion) without burning out the images of the finer nasal bones and the soft tissues. The wedge, which is 10 mm. thick and has a 45 degree bevel, covers one-third of the port for lateral films and is moved aside for posteroanterior films (Fig. 1).



Fig. 1.

Although the radiation to the subject was very small, the necessity for repeated exposure of the subject in a long-term study suggested extreme caution with regard to radiation hygiene, even at the expense of increased blurring. Every attempt to reduce radiation to the subject by the use of faster films or intensifying screens increases blurring from granularity. No-screen film, even with prolonged development, required several times as much exposure as did the Kodak Blue Brand film with par-speed intensifying screens. Faster films and faster intensifying screens were tried. While they did reduce the exposure factors, the increase in blurring became appreciable for a relatively small reduction in radiation.

Since the earposts of the head positioner can shift in relation to the bony structures of the head, they are of no value as landmarks in longitudinal research.<sup>3</sup> Furthermore, the earposts often obscure such anatomic regions as the auditory meatuses and the mandibular condyles. The present equipment was designed to maintain the conventional orientation of the subject's head to the tube and film but to eliminate the earpost image on lateral films.

The head positioner is a modification of the self-centering Higley positioner.<sup>8</sup> It was centered and mounted on a stripped-down dental chair which can be rotated as a unit through 90 degrees for lateral and posteroanterior films and accurately locked against stops on a steel plate under the chair (Fig. 2). The simultaneous rotation of the chair and head positioner permits the use of a single x-ray tube and avoids the problem of mounting two Bucky diaphragms close to the patient's head. This also prevents the "boxed-in" feeling which the younger subjects might experience with two Bucky diaphragms in place.

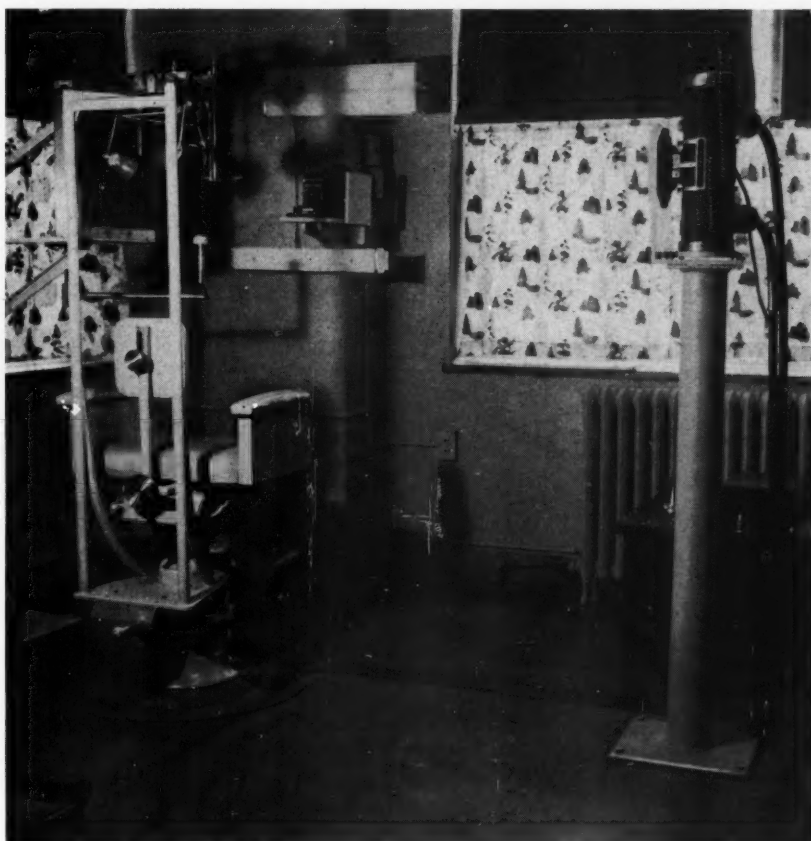


Fig. 2.

The subject is seated, and his head is oriented by means of the earposts and an orbital marker, with the Frankfort plane parallel to the floor. With the earposts in place, the posteroanterior film is exposed (Fig. 3). For the lateral film, the chair is rotated 90 degrees; then three rubber cups to the head and a chin support (all under light spring tension) are brought to place. These are then locked in position to stabilize the head and face. The earposts are then moved laterally, free of the ears, and elevated out of view for the film exposure (Fig. 4). When open-mouth films are desired, the earposts are left in place. It should be noted that the chin support does displace the soft tissues of the chin.

One of the objectives in purchasing the high-kilovolt equipment was to reduce radiation to the subject. The study by Stanford and Vance<sup>9</sup> has indicated, however, that while the radiation to the skin with high-kilovoltage techniques is less, there is increased penetration into the deeper tissues, so that the total radiation received by the body for a given quality of film is not reduced by the use of high kilovoltages. The films are obtained at 120 kv., and 50 Ma. using 2 mm. aluminum filter, par-speed intensifying screens, Blue Brand film, and a Potter-Bucky diaphragm with a 16:1 grid. Exposure speeds are 0.4 second for posteroanterior films and 0.2 second for lateral films. In the central beam, the measured radiation (in air) was 0.28 r per second and 0.36 r per second with a wooden phantom in place. To age 12, the air dosage for the two films (0.6 second) is 0.17 r. While cephalometric films irradiate a larger area than is required for bitewing films, the measured air dosage is considerably less.

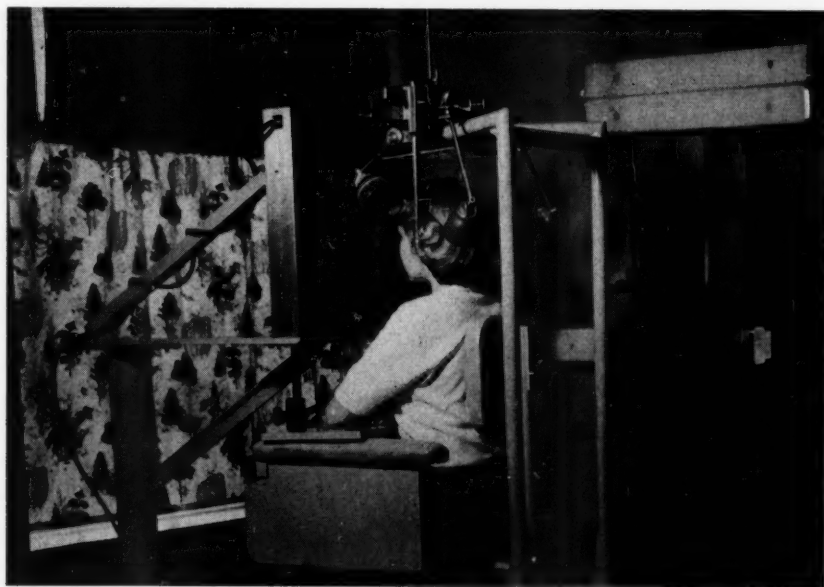


Fig. 3.

In addition to the aluminum filter, radiation of the primary beam is limited by a  $\frac{1}{8}$  inch lead diaphragm cut so that the primary radiation is limited to the area included by the film. A radiation rate meter at the chair, but 3 feet from the central beam, measures the radiation at 600 mr per hour or 0.00002 r for the 0.6 second required to obtain a pair of films. Even this minute radiation has been further reduced in the gonadal area by the installation of lead-lined plywood in the sides and back of the chair. The size of the chair back has been increased since the photograph was taken. In addition, a lead-lined lap board (Fig. 2) is placed over the arms of the chair. Since the lap board serves as a convenient arm rest for the subject, his attention is not drawn to the precautions being taken. For comparative data, the reader is referred to an article by

Richards<sup>10</sup> and the forthcoming report of the Second Roentgenographic Cephalometric Workshop sponsored by the American Association of Orthodontists.

Following the suggestions of Thurow,<sup>5</sup> Newman and Meredith<sup>11</sup> employed a procedure for correcting measurements for optical blurring as well as enlargement. They also worked out a method for correcting enlargement of measures of structures which do not lie in the midsagittal or earpost plane.

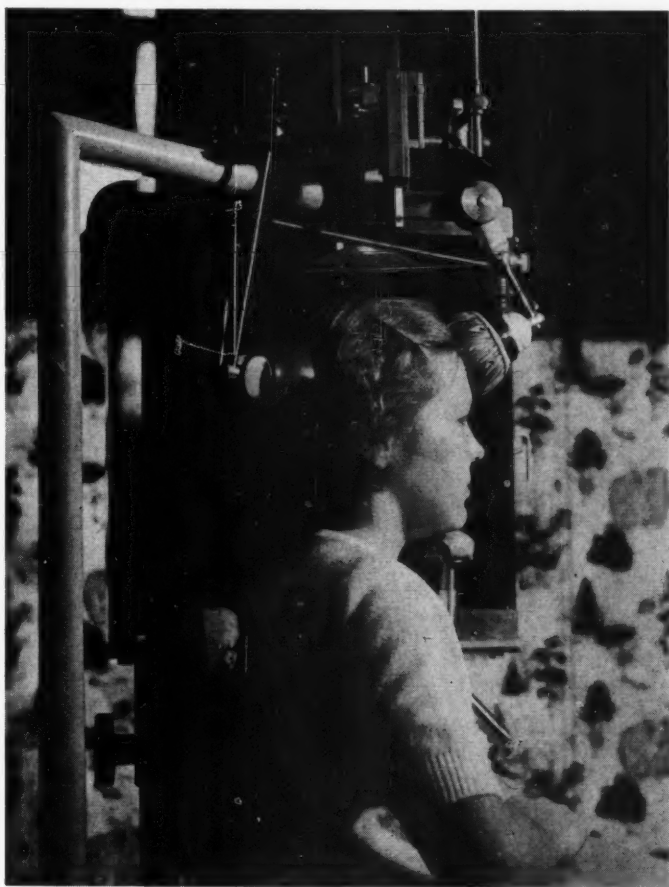


Fig. 4.

Another source of error is introduced by tracing paper and the pencil line. This error can be minimized by measuring directly on the film when the landmarks have first been registered. This is done by registering the landmark with a fine needle point which pierces the emulsion of the film. The otherwise small variation in landmark location can become relatively large when changes from age to age are being measured. One way to reduce this source of error is to inspect all films for one subject with regard to the landmark under consideration. After such an inspection, the landmark is registered on each film. In this way, the landmark is comparable from age to age. The details have been described by Meredith.<sup>12</sup>



## SUMMARY

While the sources of error inherent in measurements from cephalometric films are satisfactorily small for many purposes, they should be given special attention when long-term individual rates and patterns of growth or short-term changes that occur during orthodontic treatment are being studied. One source of these errors is blurring. This can be reduced by using an x-ray tube with a small focal spot, a high-kilovolt technique with a grid to absorb some secondary radiation, large tube-to-film distances, and a short exposure time. A description of one installation has been given, with suggestions for further improvement. For stated reasons, the earposts have been eliminated for lateral films.

A certain amount of error occurs in the procedures for selecting and measuring from cephalometric films. Attention has been directed toward procedures which reduce these sources of unreliability.

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## THE PRINCIPLE OF COIL SPRING TRACTION APPLIED TO CERVICAL STRAP THERAPY

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LIGHT forces in tooth movement are much slower than the use of vertical loops or strong tip-back bends requiring heavy elastics to activate, but they cause less tissue reaction and are less likely to result in relapse after retention. This concept dictates the use of light elastics, coil springs, and small-dimensional wires in orthodontic therapy.

Cervical traction, or occipital anchorage, has had a rebirth in planned treatment, but the pendulum has swung to the extreme. If cervical traction were used by the right men in treating carefully selected patients, failures might be kept to a minimum. To the average orthodontist, however, it has become only one of several valuable means at his disposal for moving teeth.

With these facts in mind, and with an auxiliary that will adapt to any appliance technique, or to either jaw, I offer the following cervical strap.

The simpler the appliance in occipital anchorage therapy, the better the patient will cooperate in its use. Having used a cervical strap with elastics for the past nine years with some degree of success depending on the malocclusion and on the patient's cooperation, I find it a simple but effective method where indicated. The cervical strap that I use was fabricated to simplify application, with the hope that during sleep there are less chance of distorted force and less displacement.

Belting is used for the neck band and coil spring to furnish the force. A piece of soft 0.036 inch steel wire about 5 inches long is used for the stabilizing arm. The softness allows it to be adapted to the cheek and neck. A  $\frac{1}{2}$  inch piece of 0.050 inch tubing is soldered to this. Then three or four pieces of 0.006 by 180 band material are soldered to this same piece of wire from front to back to retain securely the stabilizing arm to the belting. To a piece of 0.045 inch harder steel wire, which is to be known as the activating arm, a small button is soldered at one end to act as a stop for the coil spring. The coil spring is wound from 0.016 inch hard spring wire. This activating arm, after it has been placed in the coil spring, is slid through the tubing of the stabilizing arm and the anterior end is adjusted to the patient's lips and mouth. A section of 0.050 inch tubing is soldered to this end to fit an intermaxillary hook or sliding hook on the arch. This is then duplicated for the opposite side. A section of belting is then adjusted to the patient. Anteriorly, short of the corner of the mouth, a hole is punched to allow for a piece of

belting of sufficient length that it can be doubled back to cover the functioning mechanism. The stabilizing arm is sewed or stapled to the belting with the bow section protruding. A section of belting, enough to cover the

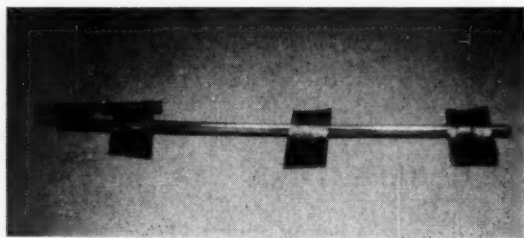


Fig. 1.—Stabilizing arm.

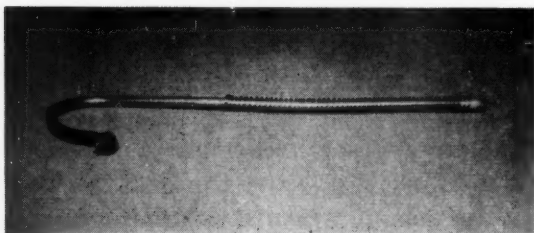


Fig. 2.—Activating arm.

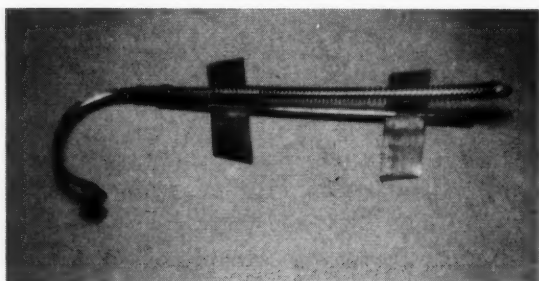


Fig. 3.—Stabilizing arm joined to activating arm.

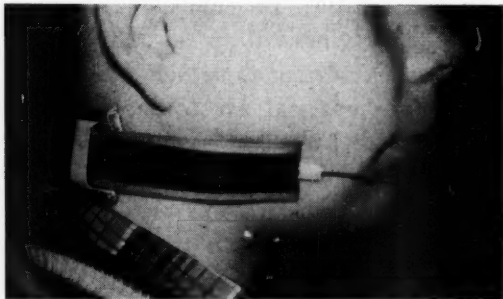


Fig. 4.—Cervical strap in position on patient.

stabilizing arm, is placed between the stabilizing arm and the activating arm. This is sewed or stapled to the neckpiece of the belting. Then the anterior flap of belting is doubled back and sewed or stapled into position, covering

the whole mechanical part of the appliance. This completes the fabrication. It is then adjusted to the patient so that the desired traction may be obtained. It can be adjusted anteriorly by changing the section of tubing fitting the intermaxillary hook or by changing the length of coil spring by cutting off the soldered button, placing a new length of coil spring and resoldering a new button. The photographs show the stabilizing arm (Fig. 1) and the activating arm (Fig. 2), separately and as one part (Fig. 3). Fig. 4 shows the cervical strap in position on a patient.

The advantages of this appliance include equalized pressure, ease of placement by the patient, less distortion while reclining, and less excuse for not wearing the strap because of the misplacing of elastics.

1702 DEAN ST.



FOR THE INFORMATION AND GUIDANCE OF ANYONE  
CONTEMPLATING ACTIVE MEMBERSHIP IN THE  
CENTRAL SECTION OF THE AMERICAN  
ASSOCIATION OF ORTHODONTISTS

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That portion of the By-Laws of the Central Section of the American Association of Orthodontists and of the American Association of Orthodontists relating to active membership reads as follows:

- (A) A person who is in the exclusive practice of orthodontics\* and who is a member in good standing of his local, state, and national dental organizations may be elected to membership, provided the applicant has been:
1. Five years in the exclusive practice of orthodontics, including a successfully completed orthodontic course of a minimum of 1,500 hours in approved dental school. The applicant must be recommended by two active members of the Constituent Society within whose jurisdiction he intends to practice; or
  2. Five years in the exclusive practice of orthodontics, at least three consecutive years of which shall have been in the office of, and in full-time association with, a practicing member of the American Association of Orthodontists. This practicing member shall have been an active member of the American Association of Orthodontists not less than eight years at the inception of the associateship, and shall have been approved by the Qualifying Committee or similar committee as qualified to act as a preceptor, prior to the approval of the associateship. The applicant must be recommended by two active members of the Constituent Society in whose jurisdiction he intends to practice.
- (a) Notice of the inception of this associateship shall be forwarded within thirty days to the Secretary of the Constituent Society of which the Senior Associate is a member, and/or the Secretary of the Constituent Society which is to supervise the associateship, and/or Component Society. The Senior Associate shall inform the Secretary of his Constituent Society of the completion of the three years of associateship.

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\*Exclusive practice as used in these By-Laws shall mean that the member shall not engage in any type of practice other than that traditionally associated with the practice of orthodontics.

At the Sept. 28, 1959, business meeting of the Central Section of the American Association of Orthodontists, Dr. Spain moved that the report of the Admissions Committee be accepted as a guide to anyone contemplating membership in the Central Section and that it should be published and sent to each and every member. The motion was seconded and carried. It will be voted on at the meeting next year as a standing resolution. The Executive Committee suggests that all members of the Central Section keep this report for ready reference and that they become thoroughly familiar with it.

- (b) Should this associateship be unavoidably terminated, the Junior Associate may apply for special consideration directly to the Qualifications Committee of the Constituent Society within whose jurisdiction he practices.

In addition to the above, there are certain standing resolutions of the A.A.O. which are applicable as follows:

Each Constituent and/or Component Society of the A.A.O. shall have a Board of Censors or similar committee of sufficient number which shall evaluate the qualifications for membership and report their recommendations to the respective society.

In evaluating the qualifications for membership of an applicant, the Board of Censors or similar committee shall satisfy itself that the applicant possesses the necessary knowledge both mechanical and biological to render competent orthodontic service.

The standards of eligibility for active and associate membership in the Constituent and/or Component Society shall be those provided in the By-Laws of the A.A.O.

An associate member of a Constituent and/or Component Society, upon becoming eligible for active membership, shall make application for same. The Secretary of the Constituent and/or Component Society shall notify the associate member one year previous to his becoming eligible for active membership. Associate membership shall automatically terminate one year after eligibility for active membership is reached.

In conformity with the above requirements the Qualifying Committee of the Central Section Society was established. The duties of the Qualifying Committee shall be to establish the qualifications of each applicant for membership in this Society and report its findings to the Membership Committee. It is the further duty of this Qualifying Committee to supervise the associateship (preceptorship) training program in conformity with the by-laws and standing resolutions of the A.A.O.

In carrying out such supervision the following standing rules of the Qualifying Committee will be applicable:

#### *I. Senior Associate*

The Senior Associate must be an active member of the A.A.O., which membership must be continuous for the previous eight years at the inception of the associateship.

The Senior Associate must be conducting a full-time practice.

1. The Senior Associate shall make formal application to the Qualifying Committee for the approval of a Junior Associate training program.
2. Upon receipt of the application, a standard questionnaire shall be sent to the Senior Associate. The questionnaire will be the same for all applicants and the questions listed will be such as to give the Committee the basic information it would require in determining the qualifications of the Senior Associate to act in that capacity. This questionnaire is not final, nor does it preclude the Committee from using other methods of seeking information.

3. Should the Committee refuse the applicant, the said applicant has the privilege of appeal to the Board of Directors, whose decision shall be final.
4. The Senior Associate will be allowed to train only one student at a time.
5. The Senior Associate shall file with the Committee a detailed outline of the course of instruction he proposes to give the student. This shall be no less than the specified minimum requirements.

## II. *Junior Associate*

1. A standard questionnaire shall also be filed with the Committee by the Junior Associate.
2. The Junior Associate shall spend full time in the exclusive practice of orthodontics in the office of the Senior Associate, and no clinical work shall be performed by the Junior Associate without the personal supervision of the Senior Associate except during sickness or while the Senior Associate is on vacation.
3. The clinical and laboratory work of the student shall be open to inspection by the Committee at all times.
4. The Junior Associate, upon completion of eighteen months of preliminary training, shall be eligible for associate membership in the Central Section of the American Association of Orthodontists.

III. Immediately following mutual agreement by the Qualifying Committee and the parties to the associateship (preceptorship), the associateship (preceptorship) shall be approved and the parties so notified in writing. (All communications relative to the establishment of associateship [preceptorship] training programs shall remain confidential.)

IV. Sixty days prior to the Central Section annual meeting nearest one year after inception of the associateship, the Junior Associate shall submit to the Secretary of the Central Section in writing:

1. A résumé of the Junior Associate's course of study to date, including a list of all textbooks, articles, etc.
2. An outline of the contemplated course of study for the remaining two years of the associateship.

This outline will be used by the Qualifying Committee to advise both Junior and Senior Associates as to the weak and strong points of their training program. One day prior to the above-mentioned annual meeting, the Senior and Junior Associates shall meet with the Qualifying Committee to receive recommendations for their future training program. Failure of either the Junior or Senior Associate to attend this meeting may result in prolonging the associateship period.

V. In evaluating the course of study for the Junior Associate, no revision shall be allowed which is less than the minimum requirements of the American Association of Orthodontists Admission Committee.

VI. At the end of the three-year associateship training both the Senior and Junior Associates shall affirm, in writing, that the training outlined and/or revised has been followed, listing articles and books studied and explaining any deviations that may have been necessary. This material shall be submitted to the Secretary of the Central Section ninety days prior to the next Central Section meeting.

VII. Every applicant for active membership (except active members of the A.A.O.) shall be required to stand an examination at the time and place specified by the Committee. This examination shall consist of:

1. Oral examination, generally given the day preceding the annual meeting of the Society, immediately following either:
  - (a) The applicant's successful completion of the above-mentioned university orthodontic course; or
  - (b) The applicant's successful completion of three years of approved associateship (preceptorship) training.
2. Five case reports, including:
  - (a) Photographs, at least full-face and profile.
  - (b) Models.
  - (c) Intraoral x-rays before and after treatment.
  - (d) History of patient.
  - (e) Treatment plan.
  - (f) Any other diagnostic methods used, such as cephalometric tracings and interpretations.

These case reports may be of completed cases or cases that are still under treatment and may be presented at the time of the oral examination or at any other scheduled examining time prior to his becoming eligible for active membership.

3. Any other material the Committee may deem necessary or pertinent. Requests to take this examination shall be made in writing by the prospective member to the Secretary at least ninety days prior to the Central Section meeting.

MINIMUM REQUIREMENTS FOR ASSOCIATESHIP

(SUBJECT TO CHANGE BY QUALIFYING COMMITTEE)

*Training Program*

1. A thorough study of:
  - (a) *Bone and Bones*, by Wienmann and Sicher (St. Louis, 1955, The C. V. Mosby Company).
  - (b) At least two of the following:
    - (1) *Principles of Orthodontics*, by J. A. Salzmann (Philadelphia, 1957, J. B. Lippincott Company)
    - (2) *Text-Book of Orthodontia*, by R. H. W. Strang (Philadelphia, 1958, Lea & Febiger)
    - (3) *Applied Orthodontics*, by J. D. McCoy (Philadelphia, 1956, Lea & Febiger)
    - (4) *Practical Orthodontics*, by G. A. Anderson (St. Louis, 1955, The C. V. Mosby Company)
2. A thorough study of the following articles from the AMERICAN JOURNAL OF ORTHODONTICS:
  - (a) The Panel Discussion by Hahn, Tweed, Hellman, Grieve and Brodie, AM. J. ORTHODONTICS & ORAL SURG. **30**: 401-460, 1945.
  - (b) Waugh, L. M.: The American Association of Orthodontists, AM. J. ORTHODONTICS **38**: 75-129, 1952.
3. A thorough study of at least ten articles written before the associateship was begun and selected by the Senior Associate. These articles may be from any scientific journal. They should reflect knowledge that will be useful to orient the Junior Associate in his thinking of appliance therapy and/or treatment philosophy that he will study with the Senior Associate. A list of articles selected should be submitted to the Secretary of the Central Section.



4. A careful reading of all articles published in the AMERICAN JOURNAL OF ORTHODONTICS during the associateship.
5. Thorough training in the construction and manipulation of the appliance of choice and also responsibility for instruction in at least two other appliance therapies.
6. Regular discussion periods each week between the Senior and Junior Associates relating to diagnosis and treatment of cases presently under treatment.
7. Before the Junior Associate is elected to membership, he shall have taken at least two university-sponsored short courses in subjects related to orthodontics.
8. The Qualifying Committee shall in no case insist upon instruction in any certain type of appliance or method of treatment but shall put emphasis upon general orthodontic knowledge.

#### *Questionnaire for Senior Associates*

By requesting permission from the Central Section of the A.A.O. for permission to act as a Senior Associate you are assuming an obligation to give a course of instruction that will prepare a student to become a competent orthodontist and one who will be able to qualify for membership in the A.A.O. To assist the Admissions Committee in determining your qualifications for this responsibility, will you please complete this questionnaire in full. Please feel free to supply any additional information you may have that is not provided for in this questionnaire.

1. Name in full.
2. Business address.
3. Place and date of birth.
4. Dental college attended and date of graduation.
5. Other colleges attended and degrees received.
6. Have you had graduate training in orthodontics?
  - (a) School or university.
  - (b) Dates you were in attendance.
  - (c) What degree was earned, if any?
7. Have you had postgraduate training in orthodontics?
  - (a) At which school or university?
  - (b) Dates you were in attendance.
  - (c) Hours per week in attendance.
8. Have you taken any refresher courses?
  - (a) Name of courses and places given.
  - (b) By whom given and dates.
9. What other training in orthodontics have you had (give full details).
10. How many years were you in dental practice other than orthodontics, such as pedodontics, general dentistry, oral surgery, etc.? Specify.
  - (a) Places and dates.
11. How many years have you been in the exclusive practice of orthodontics?
  - (a) Place of practice and dates.
12. Are you alone in practice or do you share an association?
  - (a) If the latter, give full details.
13. Do you have more than one office?
  - (a) If so, list number of offices and time spent in each.
14. Are you a diplomate of the American Board of Orthodontics?
15. Of what orthodontic societies are you now or have you been a member?
  - (a) Give dates of membership.

16. Are you a member or have you been a member of any study clubs?  
(a) Give name of organizations and dates of membership.
17. Are you now or have you been a member of any scientific societies other than those directly connected with orthodontics?  
(a) Give names and dates of membership.
18. Official positions held in dental, orthodontic, or other scientific societies.
19. Are you now or have you been interested in the field of research?  
(a) What is or has been the area of special interest?  
(b) List of reports and where published.
20. Have you read papers before scientific societies?  
(a) Give names of societies, title of papers, and dates published.
21. Have you given clinics or other demonstrations before scientific societies?  
(a) Give names of societies, title of presentation, and date presented.
22. Have you taught in a dental or other school?  
(a) Name of school or schools.  
(b) Rank upon leaving.  
(c) Subjects taught.  
(d) Range of years.  
(e) Time devoted to teaching.  
(f) Dates of employment.
23. Have you ever given any courses of instruction outside a dental school?  
(a) If so, describe fully.  
(b) Dates when such courses were given, place given, under whose auspices.  
(c) Qualifications for those in attendance.
24. Have you ever had an associate in your office?  
(a) If so, please give names and dates of association.
25. How many dental assistants, laboratory technicians, secretaries, hygienists, or other auxiliary help do you employ?
26. Do you have your own x-ray equipment?
27. Do you require cephalometric films of your patients?  
(a) If so, for what purpose are they used?
28. Give in detail your proposed program of study (by years) for the Junior Associate.
29. What is the average number of new cases you have started in the last five years?
30. What is your reason for requesting permission to assume the responsibility of training a Junior Associate?
31. What financial arrangement do you propose to arrange with him?
32. What is the name of the Junior Associate you are proposing to teach?
33. Describe your type of treatment, diagnosis, and your general approach to orthodontic procedures as practiced in your office.
34. Will you be responsible for the completion of the treatment of any cases he undertakes while associated with you?

Date:

Signature:

*Questionnaire for Junior Associates*

In requesting permission from the Central Section of the A.A.O. to become a Junior Associate to one of our members, you have signified your intention of preparing yourself for membership in this organization. As an aid

in determining your qualifications for the study of orthodontics, will you please complete this questionnaire. Please feel free to supply any additional information you may have that is not provided for in the questionnaire.

1. Name in full.
2. Address.
3. Place and date of birth.
4. Dental college attended.
5. Date of graduation.
6. Did you graduate in the upper, middle, or lower one-third of your class?
7. Other colleges attended and degrees received.
8. Of what dental societies are you now or have you been a member?  
(a) Give dates of membership.
9. Have you ever been engaged in the practice of dentistry?  
(a) If so, what type of dentistry?  
(b) Place and dates.
10. In what states are you licensed to practice?
11. What is the name of the orthodontist with whom you are contemplating association?
12. What are your reasons for wishing to study orthodontics?
13. What financial arrangements have you made with the Senior Associate of your choice?
14. Have you applied for admission to any university graduate course in orthodontics?  
(a) What was the reply to your application?
15. Do you thoroughly understand all of the rules and regulations pertaining to associateship training?

Date:

Signature:

## Report

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### IS YOUR HOUSE IN ORDER?

THE Necrology Committee of the American Association of Orthodontists has been requested by President George Anderson to develop information that will be a direct aid in the disposal of a practice upon the death of an orthodontist. We are deeply concerned, for we find that there is a great deal of confusion, apprehension, and frustration on the part of the family, the executors, and the patient's parents who are being cared for when such an event occurs. Serious injury and disabling illness may have a similar effect.

We are professional people, and we are obligated to conduct our affairs so that the best interests of our patients are protected. Our families deserve our full consideration. While we should not practice from day to day thinking of death or illness, we certainly should have our house in order so that our practice may be disposed of with a minimum of confusion, delay, or loss. It is not fair to ask the widow in her bereavement to handle problems about which she may have little knowledge or that are beyond her scope. Even an executor of experience, such as a trust company or a lawyer, accustomed to gathering assets and settling liabilities, may find the intricacies of an orthodontic practice a difficult problem to conclude satisfactorily.

Your Necrology Committee, therefore, is interested in having you consider the following questions. If you care to write us about practice settlements of which you have knowledge, or if you care to comment on these questions, we will be delighted to hear from you. In fact, some of the questions have been suggested by executors and legal advisors as pertinent and well worth your careful thought.

(1) Have you read and filled out the booklet entitled *Information Concerning the Estate of Dr. \_\_\_\_\_* which you received from the American Association of Orthodontists?

(2) Have you made a will?

(3) Is your attorney familiar with your financial affairs? And have you discussed with him what is to happen to your practice in case of your death? Do you employ an auditor, accountant, or tax specialist who could be of help? Does any other person (for instance, your wife, or son) know the details of your practice?

(4) Do you know your gross and net wealth and the approximate estate duties thereon?



(5) Is your practice conducted along a "practice management plan," or have you developed a personalized method which, while well arranged for you, might be difficult for another to comprehend without your explanations?

(6) Question 5 in part would relate to fees, flat fee, appliance fee, retention, down payments, prepayments, refunds. A thoughtful analysis by you may indicate that certain changes would be advisable. Executors and lawyers have found this a most difficult problem.

(7) Are your technical methods different from most practitioners in your community, making for difficulty in patient transfer? Would it not be wise to think carefully about this situation in case you practice one philosophy?

(8) If you have a partner or associate, have you a specific "carry-on" agreement? Have you considered insurance as businessmen do to protect the survivor and your estate?

(9) If you do not have a partner or associate, do you have an agreement with another orthodontist to "carry on"? Or do orthodontists in your community have an arrangement to take over the care of patients?

(10) Do you have in your "acceptance-of-patient-for-treatment" letter a specific statement agreed to by the parents that this "carry-on" procedure will automatically go into effect in case of your death?

(11) Or do you have a statement which the patient's parents agree to that they make their own arrangements for "carry on" without detriment to your estate?

(12) Have you made any record as to sale of practice (beside equipment) and what you feel is the minimum sum you believe it to be worth?

(13) Do you have on deposit in a bank enough money to pay all current outstanding bills?

(14) Does your wife have a personal (not joint) bank account upon which she can draw for living expenses pending probate?

(15) Will your estate have available sufficient funds (cash or insurance) to pay taxes and bills incurred by your death without sacrificing investments?

(16) Do you know if your property and assets are held in (a) joint tenancy, (b) joint ownership, or (c) community property?

Executors seldom have experience or knowledge of the complications of an orthodontic practice, as is evidenced by the following comments resulting from a recent orthodontic estate settlement. The following is from a letter written by the executor who is also a lawyer:

It would seem to me that the orthodontist and the parents of the patient should enter into a short, written contract wherein the parents would agree that in the event of the death or disablement of the primary orthodontist they would have another practitioner take over under the same terms and conditions as contained in the original contract.

The next logical step would then, therefore, be for the orthodontist, during the course of his practice, to have such a successor in mind.

I would recommend a short paragraph be incorporated in the Last Will and Testament of the practitioner, empowering his Executor or Executors to dispose of his practice in their uncontrolled discretion and on whatever terms, again in their uncontrolled discretion, they may deem in the best interest of the estate. The paragraph could also contain the authority to dispose of said practice without monetary consideration.

I say this, based with the thought in mind that unless this fact is clearly stressed in a Will, there could be a tendency of certain of the heirs and legatees to criticize the executors for disposing of the practice at a price (or for no money at all) which they do not feel adequate or fair.

Another serious problem is when the orthodontist received a sizable deposit for preliminary work which is not completed at the time of his death. The practitioner taking over at his death may be reluctant to take over a job for which someone else has been paid, which is understandable.

The answers to these questions and to others which they may bring to mind are very important to you and your survivors. They are important to your Necrology Committee and to your specialty in that they may prevent unfortunate situations which bring us poor public relations.

You need not answer any of them to us; just do so to yourself. If you care to make comments, we will be happy to receive them.

The Necrology Committee wishes to express its appreciation to President George M. Anderson, William S. Parker, and C. F. Stenson Dillon for their valuable contributions to this questionnaire.

Sincerely yours,

NECROLOGY COMMITTEE

*William S. Smith*, San Francisco, California, Chairman

*John A. Atkinson*, Louisville, Kentucky

*Milton Asbell*, Camden, New Jersey

*Curtis L. Benight*, Denver, Colorado

*Arlo M. Dunn*, Omaha, Nebraska

*Mason E. Seibel*, Syracuse, New York

*George R. Webber*, Enid, Oklahoma

*Angus F. White*, New Haven, Connecticut

## In Memoriam

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L. M. CHRISTIE

1881—1959

**L** M. CHRISTIE died at his residence, 1907 Grace Church Rd., Silver Spring, Maryland, on Oct. 26, 1959, at the age of 78. He was a native of West Sunbury, Pennsylvania, where he was born on April 25, 1881.

Dr. Christie was a graduate of Western Reserve University in Cleveland, Ohio, where he received his D.D.S. degree. He was engaged in the general practice of dentistry for several years in Corry, Pennsylvania. In 1924 he moved to Sandy Spring, Maryland, and practiced orthodontics in Washington, D. C., with offices at 1835 Eye St., N. W., until his retirement two years ago. Dr. Christie was also a consultant with the firm of Groover, Christie, and Merritt, of which his brother, the late Dr. Arthur C. Christie, was a cofounder.

Dr. Christie was a life member of the American Dental Association and a member of the American Association of Orthodontists, the Middle Atlantic Society of Orthodontists, and the Society of Orthodontists of the District of Columbia. He was on the A. A. O. Committee for the Golden Anniversary Luncheon and was active in civic affairs in Montgomery County, Maryland, for many years.

Surviving are his wife, Elvene C. Christie; three sons, John M., Robert C., and Arthur M., all of the Washington area; one daughter, Mrs. Jeannette C. Hendrick of Clearwater, Florida; and ten grandchildren. His younger brother, Clair Christie of La Jolla, California, also survives.

## Department of Orthodontic Abstracts and Reviews

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Edited by

DR. J. A. SALZMANN, NEW YORK CITY

All communications concerning further information about abstracted material and the acceptance of articles or books for consideration in this department should be addressed to Dr. J. A. Salzmann, 654 Madison Avenue, New York City.

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### Abstracts of Papers Presented Before the Research Section of the American Association of Orthodontists, Detroit, Michigan, May 3 to 7, 1959

#### **An Electromyographic Investigation of the Response to Activator (Andresen) Therapy:** By Johan Ahlgren, University of Michigan, Ann Arbor, Michigan.

This is an electromyographic study on the theories of Andresen therapy. Records of patients were taken with an ink-writing electromyograph (Grass, Model IV-A) and an eight-channel oscilloscope with photographic recorder. Bilateral readings were made of the temporal, masseter, orbicularis oris, and suprahyoid muscles. The activators were constructed from working bites 2 to 4 mm. below and ahead of the postural position.

1. The greatest muscle response was seen in the mandibular protractors with simultaneous inhibition of the retractors in biting on this appliance. This finding disagrees with the report of Eshler but confirms the original hypothesis of Andresen himself.

2. After the regular nightly use of the appliance, the response reverses when the activator is removed, that is, the *retractors* of the mandible show greatest activity for about two hours before the usual contraction pattern is back again.

3. The intermittent muscle activity while the appliance is in place is not due to stretch, as some have stated, but is caused by the swallowing pattern which appears more frequently with the activator in the mouth. The increased swallowing activity is probably due to the greater flow of saliva.

4. One of the principles in activator treatment is the re-education of the muscles as occlusal changes occur. Our findings indicate that the reflex activity can be changed to a new and more favorable contraction pattern. This new reflex pattern is re-enforced and maintained by the afferent signals from the periodontal membranes of the teeth whose intercuspation has been improved by the treatment.

5. The stretch caused by moving the mandible past the postural position does not elicit increased muscle activity. The tendency to return to the postural position is due to sheer passive tension of muscles and their tendons.

721 CHURCH ST.

ANN ARBOR, MICH.

#### **An Electromyographic Study Involving Occlusal Interferences:** By John Edward Porritt, University of Michigan, Ann Arbor, Michigan. (Read by title.)

An occlusal adjustment was performed on a patient with a normal permanent dentition. Inlays with intentional areas of interference were



placed, one at a time, in the maxillary left first premolar, the maxillary right first molar, and the maxillary left first molar. Electromyograms of the masseter and three groups of temporal muscle fibers bilaterally recorded the muscle contraction patterns during prescribed movements of the mandible. Records were taken before and after the presence of the three inlays. The records were studied in order to determine any alteration of the muscle contraction patterns due to the presence in the mouth of an inlay with occlusal interferences.

The following conclusions were reached:

1. A single restoration with occlusal interferences is sufficient to change muscle contraction patterns which are balanced bilaterally to patterns which are asymmetrical. Removal of the occlusal interferences restores the symmetrical muscle contraction patterns.

2. Occlusal interferences can inhibit muscle activity during movements of the mandible. Conditioning of the muscles so that an adopted occlusal position and efficient movements of the mandible can be performed is generally accomplished in a short time after the interferences are placed.

3. The location of the interference on the tooth appeared to be more responsible for the muscle contraction patterns which occurred than the location of the tooth in the mouth.

4. The temporal muscle seemed more sensitive than did the masseter muscle in response to the occlusal interferences.

223 PHYSICIANS BLDG.  
BOULDER, COLO.

**Intraoral Pressures Involved in Thumb- and Finger-Sucking:** By James Edward Cook, University of Michigan, Ann Arbor, Michigan. (Read by title.)

A series of twenty-five active thumb- or finger-suckers, seventeen girls and eight boys between the ages of 6 and 13, were tested to measure the intraoral pressures created during the practice of the habit. Measurements were made through the use of an air-tight thumb stall connected to a physiologic pressure transducer which translated air pressure changes into electrical signals which, in turn, were amplified and recorded on coordinate paper. Known weights were placed on the sealed thumb stall to calibrate the recording apparatus. The results of the testings of the subjects were tabulated and included in appropriate charts. Pressures recorded varied from positive readings of 11,350 pressure units per second or 1,302 grams per square centimeter per second to negative pressure recordings of 19,550 pressure units per second or 2,242 grams per square centimeter per second. The greatest alveolar distortion was observed in the maxilla of a 6-year-old girl who had the highest positive pressure reading. Four of the five cases recording negative pressures only had posterior cross-bites. Open-bites were not peculiar to any one type of sucking pattern. The pattern of pressure application during thumb- and/or finger-sucking is indicative of the type of malocclusion which may result.

1412 BULL ST.  
COLUMBIA, S. C.

## News and Notes

### American Association of Orthodontists

The fifty-sixth annual session of the American Association of Orthodontists will be held April 24 to 28, 1960, at the Shoreham Hotel in Washington, D. C.

Arrangements are proceeding quite satisfactorily for this first annual session of the new decade. Your officers are making every effort to see that your time will be well spent.

The scientific program is outstanding. Great care has been taken to select essayists, clinicians, and discussion leaders from here and abroad. Their presentations should be instructive, provocative, and even inspirational. The essay, registered clinic, general clinic, research, and round-table programs are being arranged so as to give you a rare opportunity to share and discuss mutual problems with the world's leading orthodontists.

Because beautiful Washington is the host city, the sightseeing and social activities are unusually attractive. There will be a conducted tour of the city on Sunday afternoon and a trip to Mount Vernon, Alexandria, and Christ Church on Monday. The ladies will have a specially arranged style show and luncheon on Tuesday, and there will be continental breakfasts on both Monday and Tuesday. We all will enjoy the Sunday night reception honoring our guests from abroad and the candlelight buffet that follows, as well as the President's reception and dinner-dance on Wednesday night.

Hotel facilities are excellent. In addition to the Shoreham, arrangements have been made with the Sheraton-Park Hotel, just one short block away, for additional rooms because of the expected large attendance. In keeping with the importance of the meeting and in order to help you gain the most possible from each contribution, closed-circuit television will augment the usual channels of communication.

For a profitable, educational, and socially delightful experience, complete your plans now for Washington in '60!

### *Program Outline*

#### *Monday, April 25*

9 A.M.

Official Opening of the Meeting. President George M. Anderson.  
Invocation. The Rev. Dr. Graham Gordon Lacy, Minister, Central Presbyterian Church, Washington, D. C.  
Address of Welcome. Hon. Robert E. McLaughlin, President, Board of Commissioners, District of Columbia.  
Response. William R. Humphrey, President-Elect, American Association of Orthodontists.  
President's Address. George M. Anderson.

#### SCIENTIFIC MEETING (Terrace Banquet Room and West Ballroom)

*Honorary Presiding Officer:* Hugo Thorne, President, Swedish Orthodontic Society.

*Presiding Chairman:* T. M. Graber, General Chairman.

10 A.M.

The John V. Mershon Memorial Lecture.

Introduction by John W. Ross.

PROFESSIONAL AND PUBLIC RELATIONS. C. Edward Martinek  
(U. S. A.)

- 11 A.M. ASYMMETRIES OF THE TEETH, DENTAL ARCHES, JAWS, AND SKULL AND THEIR ETIOLOGICAL SIGNIFICANCE. Anders Lundström (Sweden).
- 12:15 P.M. Golden Anniversary Luncheon (Charles R. Baker presiding).  
Guest speaker: Sheldon Friel.
- 2:15 P.M. Albert H. Ketcham Memorial Awards.  
Presentation by L. Bodine Higley, President, American Board of Orthodontics.  
*Recipients:* Sheldon Friel, Dublin, Ireland, and Charles H. Tweed, Tucson, Arizona.

## SCIENTIFIC MEETING (Terrace Banquet Room and West Ballroom)

- Honorary Presiding Officer:* Olav Slagsvold, President, Norwegian Orthodontic Society.  
*Presiding Chairman:* Paul V. Reid, Program Chairman.
- 3:15 P.M. RELEGATING TO APPLIANCES THEIR PROPER PLACE IN TREATMENT. Oren A. Oliver (U. S. A.).
- 4:15 P.M. TISSUE BEHAVIOR DURING ORTHODONTIC TOOTH MOVEMENT. Kaare Reitan (Norway).

## Tuesday, April 26

## SCIENTIFIC MEETING (Terrace Banquet Room and West Ballroom)

- Honorary Presiding Officer:* H. T. A. McKeag, President, European Orthodontic Society.  
*Presiding Chairman:* A. Frank Heimlich, Vice-President, American Association of Orthodontists.
- 9 A.M. ORTHODONTIC DOCTRINE AND MECHANICAL TREATMENT METHODS. C. Philip Adams (Ireland).
- 10 A.M. THE IMPORTANCE OF AN ACCURATE ANALYSIS IN ORTHODONTIC DIAGNOSIS AND TREATMENT PROCEDURES. Charles H. Tweed (U. S. A.).
- 11:30 A.M. First Business Meeting.
- 12:15 P.M. Ladies' Luncheon and Style Show.
- 12:15 P.M. Past Presidents' Luncheon.
- 1:30 P.M. Research Section, American Association of Orthodontists.  
*Honorary Presiding Officer:* Francis A. Arnold, Jr., Chief, National Institute of Dental Research, Department of Health, Education and Welfare.  
*Presiding Chairman:* Herbert I. Margolis, Chairman, Research Committee, American Association of Orthodontists.  
Report of the Second Cephalometric Workshop. J. A. Salzmann (U. S. A.).  
Milo Hellman Prize Essay.  
Condensed Research Reports.

## Wednesday, April 27

- 9 to 11:30 A.M. General Clinics. (Nathan G. Gaston, Monroe, Louisiana, Chairman.)
- 12 M. Round-Table Luncheon. (B. Edwin Erikson, Washington, D. C., Chairman.)
- 2:15 P.M. Registered-Attendance Lecture-Clinics, First Session. (Frank P. Bowyer, Knoxville, Tennessee, Chairman.)
- 3:45 P.M. Registered-Attendance Lecture-Clinics, Second Session. (Frank P. Bowyer, Knoxville, Tennessee, Chairman.)
- Clinics will be given during the afternoon by the following:
- C. Philip Adams (Ireland)
  - Philip E. Adams (U. S. A.)
  - C. F. Ballard (England)
  - P. Raymond Begg (Australia)

Newton de Castro (Brazil)  
George B. Crozat (U. S. A.)  
R. B. Dockrell (Ireland)  
Samuel Fastlicht (Mexico)  
Vernon Fisk (Canada)  
Egil Harvold (Norway-Canada)  
Rudolph Hotz (Switzerland)  
J. H. Hovell (England)  
S. J. Kloehn (U. S. A.)  
B. S. Kjellgren (Sweden)  
Gustav Korkhaus (West Germany)  
Hugo Lager (Denmark)  
Anders Lundström (Sweden)  
C. Edward Martinek (U. S. A.)  
Giorgio Maj (Italy)  
Kaare Reitan (Norway)  
Robert Ricketts (U. S. A.)  
J. H. Scott (Ireland)  
Arnold Stoller (U. S. A.)



The Jefferson Memorial in Washington, D. C. The American Association of Orthodontists will meet in Washington April 24 to 28, 1960.

*Thursday, April 28*

SCIENTIFIC MEETING (Terrace Banquet Room and West Ballroom)

*Honorary Presiding Officers:* Robert Y. Norton, President, Australian Society of Orthodontists, and Armando Werneck de Carvalho, Vice-President, Brazilian Society of Orthodontists.

*Presiding Chairman:* Kyrle W. Preis, President, Middle Atlantic Society of Orthodontists.



- 9 A.M. Condensed A. B. O. Thesis: A FOUNDATION FOR CEPHALOMETRIC COMMUNICATION. Robert M. Ricketts (U. S. A.).
- 9:30 A.M. THE CHALLENGE OF CLASS II MALOCCLUSION. Newton de Castro (Brazil).
- 10:30 A.M. LIGHT WIRE TECHNIQUE. P. Raymond Begg (Australia).
- 11:30 A.M. Final Business Meeting.
- Adjournment.
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### **American Association of Orthodontists Post-Convention Holiday**

We have been informed by Dr. C. W. Carriek of Oberlin, Ohio, that arrangements have been made to transport all who desire by special Eastern Airlines plane to Bermuda direct from Washington, D. C., at the termination of the A. A. O.'s spring meeting on April 28, 1960. There arrangements have been made for accommodations at the wonderful new Hotel Bermudianna. The return trip will be on Sunday afternoon, in time for further air or train connections homeward. Those who desire to stay longer may do so. Dr. Carriek operated the postconvention cruise after the New York meeting in 1959. It is suggested that those interested contact him at the earliest possible moment.

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### **American Board of Orthodontics**

The next meeting of the American Board of Orthodontics will be held at the Shoreham Hotel in Washington, D. C., Monday, April 18, through Saturday, April 23, 1960. Orthodontists who desire to be certified by the Board may obtain application blanks from the Secretary, Dr. Wendell L. Wylie, University of California School of Dentistry, The Medical Center, San Francisco 22, California.

Applications for acceptance at the Washington, D. C., meeting, leading to stipulation of examination requirements for the following year, must be filed before March 1, 1960. To be eligible, an applicant must have been an *active* member of the American Association of Orthodontists for at least two years.

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### **American Association of Orthodontists**

#### **Registration of Nonmembers for Attendance at Annual Sessions**

To ensure full participation of all active members of the American Association of Orthodontists, the following classification of nonmembers eligible to attend and schedule of attendance fees, which will be charged at the time of registration, has been set up for the coming annual session of the Association at the Shoreham Hotel, Washington, D. C., April 24 to 28, 1960.

#### **A. No Attendance Fee.**

1. Full-time teachers in university dental schools.
2. Full-time graduate or postgraduate students in university orthodontic departments. It will be necessary to present a letter from the dean of the school certifying the status of the student.
3. Dentists from outside Canada or the United States of America who are members of recognized dental or orthodontic organizations.

#### **B. Attendance Fee—\$10.00.**

1. Associate or junior members of constituent societies of the American Association of Orthodontists.
2. Recent graduates of university orthodontic departments who are in Government Service.

**C. Attendance Fee—\$20.00.**

1. Recent graduates of university orthodontic departments who are not members of constituent societies of the American Association of Orthodontists.
2. Other guests.

Those persons who would be classified under the heading of C-1 or C-2 above are required to apply to the chairman of the Credentials Committee at least sixty days before the session for proper forms, which will require (a) written endorsement by two active members of the A. A. O. in the applicant's vicinity, (b) that the applicant be a member in good standing of the American Dental Association, and (c) that the applicant never has been rejected for membership in any of the constituent societies of the A. A. O.

Those persons who would be classified under the headings of A or B would be required only to submit credentials identifying themselves as being in one of these categories at the time of registration. Advanced reservations, which are by far most desirable, can be applied for by clearing one's credentials with the Credentials Committee by March 1, 1960.

Registration under categories C-1 and C-2 will, of necessity, be limited.

Daniel E. Shehan, Chairman  
Credentials Committee  
619 Medical Arts Bldg.  
Baltimore 1, Maryland

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**1960 Milo Hellman Prize Essay Contest  
American Association of Orthodontists**

The 1960 Milo Hellman prize essay contest is announced.

**Eligibility.**—Any member of the American Association of Orthodontists and any person affiliated with a recognized institution in the field of dentistry, associated with it as a teacher, researcher, or undergraduate student, or associated with a dental division of any recognized general hospital shall be eligible to enter the competition.

**Character of Essay.**—Each essay submitted must represent an original investigation and contain significant material in the art and science of orthodontics.

**Prize.**—A cash prize of \$500.00 is offered for the essay judged to be the winner. The committee, however, reserves the right to omit the award if, in its judgment, none of the entries is considered to be worthy. Honorable mention will be awarded to those authors taking second and third places. The first three papers will become the property of the American Association of Orthodontists and will be published in the AMERICAN JOURNAL OF ORTHODONTICS. All other essays will be returned to the authors.

**Specifications.**—All essays must be in English. They must be typewritten on 8½ by 11 inch white paper, double spaced, with at least 1 inch margins. Each sheet must be numbered and bound or assembled with paper fasteners in a "brief cover." Three complete copies of each essay, including all illustrations, tables, and bibliography, must be included. The name and address of the author must not appear in the essay. For purposes of identification, the title of the essay and the author's name, together with a brief biographical sketch which sets forth his or her dental and/or orthodontic training, present activity, and status (practitioner, teacher, student, research worker, etc.), should be typed on a separate sheet of paper and enclosed in a plain sealed envelope. The envelope should carry only the title of the essay.

**Presentation.**—The author of the winning essay will be invited to present it at the meeting of the American Association of Orthodontists to be held in Washington, D. C., April 24 through April 28, 1960.

**Judges.**—The entries will be judged by the Research Committee of the American Association of Orthodontists.

*Final Submission Date.*—No essay will be considered for this competition unless received in triplicate on or before March 7, 1960, by Dr. Faustin N. Weber, University of Tennessee School of Dentistry, 3387 Poplar Ave., Memphis, Tennessee.

*Herbert I. Margolis*, Chairman,  
Research Committee  
Tufts University School of  
Dental Medicine  
136 Harrison Ave.  
Boston 11, Massachusetts

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### **American Association of Orthodontists 1960 Research Section Meeting**

Continuing the policy of recent years, the program will consist of a series of ten-minute research reports which may be presented orally or read by title only. All persons engaged in research are urged to participate in this program, which will be held April 24 through April 28, 1960, in Washington, D. C.

Each participant is asked to prepare a 250-word abstract for publication in the *AMERICAN JOURNAL OF ORTHODONTICS*. Abstracts for publication and the ten-minute oral presentation at the meeting should be carefully prepared to present an adequate description of the import of the investigation.

Forms for use in submitting the title and 250-word abstract of your research will be sent to each dental school orthodontic department and to any individual requesting one. Please send your title no later than March 7, 1960, to Dr. Ernest H. Hixon, University of Iowa School of Dentistry, Iowa City, Iowa.

*Herbert I. Margolis*, Chairman  
Research Committee  
Tufts University School of  
Dental Medicine  
136 Harrison Ave.  
Boston 11, Massachusetts

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### **Some Thoughts From the Entertainment Committee Concerning the 1960 A. A. O. Meeting**

This group is working hard to provide some surcease from a very ambitious professional program. The Sunday night affair will feature the famous Shoreham Buffet. It should be patronized if you are a gourmet. (Also, many of the better Washington restaurants are not open on Sunday evenings.)

The Wednesday dinner and dance honoring our hard-working president and his presently suffering but still charming wife is a must. There will be unusual entertainment; you will be surprised. The Terrace Banquet Room, "locale" for this event, is unfortunately of a rather under-sized proportion. Better sign up early. In fact, better sign up for all events early. A visit to the Shoreham reservation desk (as of Dec. 5, 1959) reveals astonishing bookings.

Don't make us say: "We told you so."

*Entertainment Committee*

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### **Northeastern Society of Orthodontists**

The fall meeting of the Northeastern Society of Orthodontists was held at the Statler Hotel in Hartford, Connecticut, on Oct. 25, 26, and 27, 1959.

About 400 members and guests were registered for the meeting, which opened with a cocktail party on Sunday night.

Dr. George Anderson, president of the American Association of Orthodontists, honored the Society by attending the meeting and delivering a short address at a luncheon on Monday. He described the increasing burden placed on the officers of the A. A. O. as the membership increases and as the duties of the officers become more complex. He made several proposals regarding employment of clerical help to relieve some of the pressure and provide continuity of experienced personnel to assist in planning the annual meeting.

The scientific sessions commenced at 9:30 A.M. Monday, when President Prezzano called the meeting to order, and continued through Tuesday afternoon. The essayists and their presentations were as follows:

- Some Significant Factors Basic to Orthodontic Rationale. A. H. Lubowitz.
- Suggestions for Avoiding Errors in Treatment. Robert H. W. Strang.
- Dentofacial Asymmetries and Their Clinical Significance. Edward A. Cheney.
- Diseases of the Jaws of Interest to the Orthodontist. E. V. Zegarelli.
- Cephalometrics in Theory and Practice. J. A. Salzmann.
- Utilization of Inherent Dentofacial Growth in Clinical Orthodontics. Herbert I. Margolis.
- Expansion as a Treatment Procedure—Where Does It Stand Today? Ashley E. Howes.
- Emotional and Psychiatric Problems of Children as They Relate to Orthodontics. Seymour L. Lustman.

The Board of Censors submitted the following nominations for action at the annual meeting in March, 1960:

- President*, Henry C. Beebe
- President-Elect*, Irving Grenadier
- Vice-President*, William R. Joule
- Secretary-Treasurer*, David Mossberg
- Editor and Sectional Editor*, Joseph D. Eby
- Assistant Editor*, Brainerd F. Swain
- Historian*, Leuman M. Waugh
- Board of Censors* (for 3-year term), Wilbur J. Prezzano.

The next, or annual, meeting of the Northeastern Society will be held at the Hotel Waldorf Astoria in New York City March 13 to 15, 1960.

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### **Pacific Coast Society of Orthodontists Biennial Meeting**

The biennial meeting of the Pacific Coast Society will be held Feb. 21 to 24, 1960, at Rickey's in Palo Alto, California. Plans for the program are completed. All we need for a successful meeting is your attendance.

Essayists will include the following: Samuel Pruzansky, Chicago, Illinois; Carl Ellertson, Palo Alto, California; Wendell Wylie, San Francisco, California; Robert Payne, Phoenix, Arizona; Ben Read, Los Angeles, California; Elbert King, Albuquerque, New Mexico; and Marsh Robinson, Los Angeles, California.

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### **Pacific Coast Society of Orthodontists\***

The Northern Component meets on the second Tuesday of March, June, September, and December.

The Central Component meets on the second Tuesday of March, June, September, and December.

The Southern Component meets on the second Friday of March, June, September, and December.

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\*Excerpts from the *Bulletin* of the Pacific Coast Society of Orthodontists, November, 1959.



## 1960 MEETING OF THE PACIFIC COAST SOCIETY OF ORTHODONTISTS

Rickey's, Palo Alto

Feb. 21-24, 1960

This meeting gives promise of being one of the best ever. Planning has been completed and there will be activities for everyone.

An outstanding essay problem will include Dr. Samuel Pruzansky discussing abnormal facial patterns, in relation to treatment; Dr. Ellertson will discuss the patient-relation problem; Dr. Marsh Robinson will discuss mandibular prognathisms; Dr. Wendell Wylie will discuss problems in the mixed dentition; Mr. Ben Read will discuss problems of socialized care in relation to proposed legislation; Dr. Elbert King will report on results of mixed dentition treatment using cervical traction; and Dr. Robert Payne will discuss ideals of treatment in the permanent dentition.

In addition to this, there will be a series of condensed reports of projects and other material that will be of interest to our group. A limited-attendance clinic and table clinics will complete the scientific portion of the program.

## AMERICAN SPECIALTY BOARDS

The House of Delegates of the American Dental Association passed new rules for all specialty boards at its annual meeting in New York in September. These rules were the result of a long study and had the recommendation of the Council of Dental Education of the American Dental Association. All specialties will be affected. The following is part of the new rules passed by the House:

*Operation of Boards:* (1) Each board shall certify qualified dentists as diplomates only in the special area of dental practice approved by the American Dental Association for such certification. (2) Each board, except by waiver permit of the Council on Dental Education, shall give at least one examination in each calendar year and shall announce such examination at least six months in advance. (3) Each board shall maintain a current list of its diplomates and of those who announce themselves as specialists in its area. (4) Each board shall submit annually to the Council on Dental Education data relating to its financial operations, applicant admission, and examination procedures and results thereof. (5) Each board shall maintain a current list of advanced courses and programs acceptable to it and approved by the Council on Dental Education for fulfilling the educational needs of its candidates. (6) Each board shall provide periodically to the Council on Dental Education evidence of its promotion of effective continuing educational programs in its area or evidence that this activity is being effectively conducted by other agencies or institutions. (7) Each board shall provide periodically to the Council on Dental Education evidence of its examination and certification of a significant number of additional dentists in order to warrant its continuing approval by the American Dental Association. (8) Each board shall conduct periodic reviews to provide assurance that its diplomates continue to meet the qualification standards of the board and shall report the results of such reviews to the Council on Dental Education. (9) Each board shall bear full responsibility for the conduct of its program, the evaluation of the qualifications and competence of those it certifies as diplomates and the issuance of certificates.

*Certification Requirements:* (1) Each board shall use, in the evaluation of its candidates, standards of education and experience approved by the Council on Dental Education. (2) Each board shall require for eligibility for certification as a diplomate a minimum of two academic years of postgraduate study in recognized institutions, or two calendar years of postgraduate study if the programs involve hospital training. Until Jan. 1, 1967, candidates entering the preceptorship program operated by the American Association of Orthodontists may have the study and training of such program accepted as a substitute for a formal education

program. (3) Each board shall require a minimum of five years of practice primarily in the area for which it grants certificates. The years of formal or preceptorship education in this area may be accepted to fulfill this requirement.

*Granting Certificates:* (1) Each board shall grant a certificate annually to each of its diplomates as evidence of all qualifications and requirements. (2) Each board shall require an annual registration fee from each of its diplomates intended to assist in supporting financially the continued program of the board.

THE GRADUATE DEPARTMENT IN ORTHODONTICS AT THE UNIVERSITY OF CALIFORNIA

Dean Robert W. McNulty, University of Southern California, College of Dentistry, announced that Dr. Sheldon W. Rosenstein of Chicago, Illinois, will be the Department Head of the new graduate course in orthodontics to be introduced in September, 1960.

CENTRAL COMPONENT

The regular quarterly meeting of the Central Component, Pacific Coast Society of Orthodontists, was held at the Fraternity Club, San Francisco, on Tuesday, Sept. 22, 1959.

The afternoon session was preceded by a talk by Joseph P. Heisel, Jr., of Treloar and Heisel, consultants, who discussed the American Association of Orthodontists Disability Insurance Plan.

Program chairman John Parker then introduced Dr. Lyall Bishop, oral surgeon from Walnut Creek and past president of the California State Dental Association. Dr. Bishop gave a very interesting clinic, profusely illustrated with slides and moving pictures, of the various surgical problems that are related to orthodontics. Techniques were illustrated and described regarding supernumerary teeth, follicular cysts, premature bicuspid extractions, and the ever-present third-molar problem. The members found this clinic very pertinent and informative.

Following the cocktail hour and dinner, a short business meeting was held, at which Mr. Heisel spoke again. Dr. Railsback announced that essayists had accepted for the biennial meeting and that arrangements were coming along nicely. Dr. Railsback also announced that if any of the members are interested in presenting a clinic, they should contact Dr. Rod Mathews, who is in charge of clinics.

The evening session was devoted to a display and discussion of cases presented by Drs. Ed Foster, Jack Foster, Earl Hummell, Earl Jorgensen, Philip Leigh, Glenn Masunaga, and Gareth Meinhold. The panel for this discussion consisted of Drs. Bill Smith, Ernie Johnson, Chu Carey, Bob Murray, and Lyall Bishop. There were some very interesting cases presented and the members were commended for the results that they obtained.

The meeting was closed by Program Chairman John Parker, who thanked Dr. Lyall Bishop, the members who presented cases, and the members who composed the panel for a very interesting and educational evening.

SOUTHERN COMPONENT

The regular quarterly meeting was held Friday, Sept. 11, 1959, at the Statler Hotel in Los Angeles and was called to order by Chairman Howard Lang at 10:15 A.M.

Chairman Lang announced that the complete American Board presentations by Dr. Bob Landy and Dr. John Hopkins were available for study by any members during the meeting. These cases were very well treated and beautifully and completely presented. At the next meeting we will have the opportunity to inspect and view the Board presentations of two more men.

Chairman-Elect Bob Lee presented Dr. Krause of the University of Washington who spoke on the subject of "Heredity and Cranio-Facial Complex." Dr. Krause has the unique ability to present a difficult subject with good humor and much meat. His presentation was very well prepared.

Dr. Krause feels that inheritance is a factor in malocclusion and that not much more should be said at this time. He stated that the knowledge of the mechanism of cleft palates will very soon be considerable and that prevention of cleft palates is not presently possible

because of our inability to manipulate the genes. His most optimistic and encouraging statement was to the effect that it is possible to predict growth patterns if given certain conditions but that this information is presently in the hands of scientific men in other fields.

#### NORTHERN COMPONENT

On June 28, 1959, at the Davenport Hotel in Spokane, Chairman Malcolm Chipman called the meeting to order at 9 A.M. He referred to Program Chairman Denton Rees, who subsequently introduced guest speaker Howard Lang of Los Angeles.

Dr. Lang's presentation, "Treatment Philosophy and Review of Cases Ten Years After Treatment," was enthusiastically received. He generously elaborated on case treatment during a question-and-answer period.

Later in the afternoon, Dr. Eugene Butori of Portland, Oregon, provided an enlightening paper entitled "Group Orthodontic Practice."

Dr. Pete Bishop reported that the P.C.S.O. biennial meeting, scheduled to take place in the Seattle area, probably will not occur in 1962 as originally planned, since that is the year of the National Association Meeting. In order not to conflict with the latter-mentioned session, the coastal meeting would probably be held a year earlier—in 1961.

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### Southern Society of Orthodontists

The thirty-eighth annual meeting of the Southern Society of Orthodontists was held at the Dinkler-Plaza Hotel in Atlanta, Georgia, Oct. 11 to 14, 1959. The total registration was 389, the largest in the history of the Society. Of this number, there were 239 orthodontists, 113 ladies, and 37 exhibitors.

The Program Committee, with Charles E. Harrison as Chairman, presented an outstanding scientific program, and the table clinics, of which Prescott E. Smith was chairman, were excellent. The Commercial Exhibit, consisting of twenty-four exhibitors, under the chairmanship of Marvin C. Goldstein, was larger than at any previous meeting. The exhibitors were a great bunch of fellows, and a large attendance enjoyed and profited by this part of the meeting.

The social side of the meeting was enjoyable and well planned. On Monday evening, following cocktails in the Dinkler Sky Room, there was a banquet honoring Dr. and Mrs. George M. Anderson and officers of the Southern Society of Orthodontists. This was an outstanding occasion, and it was followed by an excellent floor show and dancing in the Dinkler Rainbow Room.

On Tuesday, at 12:30 P.M. everyone enjoyed a luncheon honoring new members. The speaker for this occasion was George M. Anderson, president of the American Association of Orthodontists.

Entertainment for the ladies was well taken care of and, in addition to business sessions, included a special breakfast, a golf tournament at the Druid Hills Golf Club, and a luncheon and flower-fashion show at the Piedmont Driving Club.

It was a well-rounded meeting in every respect. The members of the Southern Society are indebted to the Local Arrangements Committee, the officers, and all those who made this one of our truly outstanding sessions.

A brief résumé of the program follows.

#### *Sunday, Oct. 11, 1959*

5 P.M.	Registration
1 P.M.	Golf Tournament
7:30 P.M.	"Get-Acquainted" Cocktail Party

*Monday, Oct. 12, 1959*

- 9 A.M. Meeting called to order by H. Harvey Payne, President  
Invocation. Dr. Patrick D. Miller, Atlanta, Georgia  
Welcome. John Buhler, Dean, School of Dentistry, Emory University  
Response. Boyd W. Tarpley, Birmingham, Alabama  
Announcements. Charles H. Smith, Chairman Local Arrangements  
Committee  
President's Address. H. Harvey Payne
- 10 A.M. Scientific Program  
Charles E. Harrison, Chairman of Program Committee, presiding  
Case Analysis. George M. Anderson, Baltimore, Maryland
- 11 A.M. The Edgewise Attachment in Routine Use. T. M. Graber, Kenilworth, Illinois
- 2 P.M. Rationalism in Orthodontic Therapy. Earl E. Shepard, St. Louis, Missouri
- 3 P.M. Clinical Observations. Herbert D. Jaynes, Atlanta, Georgia

*Tuesday, Oct. 13, 1959*

- 9:30 A.M. A Direct Technic of Appliance Fabrication. Earl E. Shepard, St. Louis, Missouri
- 11 A.M. Business Session
- 2 P.M. Table Clinics. Prescott E. Smith, Chairman

*Wednesday, Oct. 14, 1959*

- 9 A.M. Economics for Professional Men. M. Jules King, St. Louis, Missouri
- 11 A.M. Business Session  
Unfinished Business  
Installation of Officers  
Presentation of Past President's Key to Dr. H. Harvey Payne  
Adjournment

The following officers were elected:

*President*, M. D. Edwards, Montgomery, Alabama  
*President-Elect*, Charles E. Harrison, St. Petersburg, Florida  
*Vice-President*, George F. Wilson, Orlando, Florida  
*Secretary-Treasurer*, William H. Oliver, Nashville, Tennessee  
*Junior Member of Board of Directors*, E. D. Baker, Raleigh, North Carolina  
*Delegate to A. A. O.*, Boyd W. Tarpley, Birmingham, Alabama  
*Alternate Delegate to A. A. O.*, E. D. Baker, Raleigh, North Carolina  
*Sectional Editor, American Journal of Orthodontics*, Oren A. Oliver, Nashville, Tennessee  
*Associate Sectional Editor, American Journal of Orthodontics*, G. Fred Hale, Raleigh, North Carolina

Additions to standing committees were as follows:

*Necrology*, Winston P. Caine 3 years.  
*Education*, Orville O. Van Deusen 3 years.  
*Research*, Henry P. Hitchcock 3 years.  
*Public Relations*, Wendell H. Taylor 3 years.  
*Constitution and By-Laws*, Charles H. Smith, 3 years.

*New Members Elected to Southern Society of Orthodontists*

*Active Membership:*

Toof A. Boone, 401 Southern United Bldg., Macon, Georgia  
Joseph N. Colombo, 3405 W. Market St., Louisville, Kentucky  
George W. Huckaba, 1642 Poplar Ave., Memphis, Tennessee



James A. Leggette, Jr., 915 Lamond Ave., Durham, North Carolina  
 Deene R. Leventhal, 712 Chattanooga Bank Bldg., Chattanooga, Tennessee  
 Robert S. Payne, 60 Fifth St., N. E., Atlanta, Georgia  
 Pierce E. Ray, 609 Francis Bldg., Louisville, Kentucky  
 Cecil Clinton Warren, 348 Alhambra Circle, Coral Gables, Florida  
 William Henry Williams, 590 North Milledge Ave., Athens, Georgia

*Associate Membership:*

Bradgon R. Bowling, 3801 North Fairfax Dr., Arlington, Virginia  
 Clarence E. Calcote, 159 Wentworth St., Charleston, South Carolina  
 Charles A. Chambliss, 200-A South Monterey, Mobile, Alabama  
 Herman M. Crowder, 3387 Poplar, Memphis, Tennessee  
 William B. Crawl, 716 Hawley Bldg., Wheeling, West Virginia  
 Ben Hill Crumbley, C & S Bank Bldg., Albany, Georgia  
 Hugh C. Cunningham, 412 Fourth Ave., Albany, Georgia  
 Robert L. Edgerton, 508 N. Mills St., Orlando, Florida  
 Jerome Fleeman, 605 Lincoln Rd., Miami Beach, Florida  
 C. James Foote, 308 Lotis Way, Louisville, Kentucky  
 Jack L. Giles, 1915 Broadway, Nashville, Tennessee  
 John Johnston Jordan, 1201 East Morehead, Charlotte, North Carolina  
 Henry L. Kennett, 713 Shenandoah Bldg., Roanoke, Virginia  
 Robert Scott Lahr, 1026 North Hills Dr., Decatur, Georgia  
 William E. Lisenby, 810 Persons Bldg., Macon, Georgia  
 Wilburn James Lowe, 320 Harvey at Hollywood, Daytona Beach, Florida  
 Edwin R. Minetree, 6002 Essex Ave., Springfield, Virginia  
 Leonard O. Oden, 708 Medical Arts Bldg., Norfolk, Virginia  
 Jack R. Perciful, 1169 Eastern Parkway, Louisville, Kentucky  
 Galen W. Quinn, 806 E. Forest Hills Blvd., Durham, North Carolina  
 James Jackson Reeve, 353 Doctors Bldg., Atlanta, Georgia  
 Ralph M. Roberts, 196 Warwick Rd., Newport News, Virginia  
 Anthony J. Spadafore, Central Union Bldg., Wheeling, West Virginia  
 George Taylor Tunstall, Jr., 1511 28th St., S., Arlington, Virginia  
 Woodrow W. Walker, 621 Doctors Bldg., Charlotte, North Carolina  
 Raymond C. Whitehurst, Jr., 1010 West Nash St., Wilson, North Carolina  
 Fayette C. Williams, Jr., Leake-Goodlet Bldg., Tupelo, Mississippi

*Affiliate Membership:*

Donald S. Sterrett, 530 Live Oak Rd., Vero Beach, Florida

*Transfer:*

Joseph E. Johnson, 752 Starks Bldg., Louisville, Kentucky

*Retired Membership:*

Walter T. McFall, Flatiron Bldg., Asheville, North Carolina  
 W. Glenn Phillips, Medical Arts Bldg., Jacksonville, Florida

TESTIMONIAL HONORING ARCHIE BRUSSE PRESENTED TO HIS SON

A special committee composed of Drs. Nat Gaston, E. B. Arnold, and myself (created by our president, Dr. Marcus Murphey) has had inscribed on parchment and bound in leather a single sentence which is designed to give expression to our high regard and esteem for your late father, Archie B. Brusse, and this brief ceremony is symbolic of that high regard and esteem. The wording of the testimonial is as follows:

Brilliant leadership, not only as President of the American Association of Orthodontists, but in many other professional capacities, has earned for Archie B. Brusse this testimonial from the membership of the Southwestern Society of Orthodontists,

as an expression of its admiration for his vision, his dynamic energy, and his profound wisdom, all of which were expended so devotedly to the profession of orthodontics.

On behalf of the Southwestern Society of Orthodontists, I am asked to offer you this inscription. We take pride, as members of the Society, in the fact that the influence of Arch Brusse was of the very finest and endeared him to all of us.

REPLY BY MARTIN BRUSSE

Thank you on behalf of my Dad. Dad was a spontaneous and proud individual. He would be especially pleased with what you fellows did, because it is unique and symbolizes the comradeship he loved so much.

### American Dental Association

A.D.A. BUREAU MAKES TWO NEW BOOKLETS AVAILABLE\*

Two new booklets—one for children and one for adults—have been produced by the Bureau of Dental Health Education. "I'm Going to the Dentist" is a picture story in two colors with brief narrative of a child's first visit to the dentist. It is designed for reading to small children by parents or for reading by primary school children. There is a foreword to parents. It is available in quantities of 25 for \$1.50, 50 for \$2.65, 100 for \$4.75, and 500 for \$22.56. The second booklet, "Artificial Dentures—a Health Service or a Health Hazard," explains why the skills and knowledge of a dentist are required to provide satisfactory dentures. It warns the public of hazards involved in obtaining dentures from persons not qualified by education or authorized by law to make dentures. Prices are 25 copies for 75 cents, 50 for \$1.40, 100 for \$2.25, and 500 for \$10.00. Both booklets may be secured from Order Department, A.D.A., 222 E. Superior St., Chicago 11, Illinois.

DENTAL EXAMINATION TO BE INCLUDED IN NATIONAL HEALTH SURVEY PROJECT\*

A dental examination will be part of the health examination which U. S. Public Health Service's National Health Survey will give this fall to a sample of the population of Philadelphia, Delaware, and Chester Counties in eastern Pennsylvania. About 150 persons will be given the special examination in late October and early November. The Pennsylvania locale will be the first of some 40 sample areas throughout the U. S. One purpose of the health examination is to collect data which will help determine frequency distributions of certain physical and physiological measurements, such as height and weight statistics. This information will provide the basis for new height-weight tables to replace those now in use dating back nearly 50 years. In his examination, the dentist on the examining team is to examine the teeth and gums with a mouth mirror and explorer. Dental history and x-rays will not be taken. Findings will not be disclosed directly to examinees but will be sent to dentists if examinees so desire. The nationwide health examinations are a part of the continuing National Health Survey which collects data on the country's health.

LESS THAN 500 NEW MEMBERS NEEDED TO BRING MEMBERSHIP TO 95,000 GOAL†

The A.D.A. needs less than 500 new members during the last two months of the year to reach the Council on Membership's goal of 95,000 for the centennial year. Membership on Oct. 31 stood at 94,511—or 489 short of the goal. The total represented an increase of 125 new members during October and 3,177 over a year ago.

MEETING ON DENTAL ASSISTING SCHEDULED FOR JANUARY†

A conference on dental assisting will be held Jan. 14-15 in Washington, D.C. Representatives of the six dental schools which have had experience with programs for training dental students in effective use of auxiliary personnel will report their findings. Also on

\*From the A.D.A. News Letter, Oct. 15, 1959.

†Excerpts from the A.D.A. News Letter, Nov. 16, 1959.

hand will be representatives of other schools starting similar programs this year. Dr. Shailer Peterson, secretary of Council on Dental Education, and Reginald H. Sullens, secretary-treasurer of American Association of Dental Schools, will moderate conference sessions.

#### BROAD INTEREST SHOWN IN ASSOCIATION STATEMENTS ON DENTIFRICE ADVERTISING\*

Nationwide interest in television programming in the light of recent "rigging" disclosures has been reflected by broad media coverage given Association pronouncements of its stand on dentifrice advertising. In addition, several letters have been received praising statements by Pres. Paul H. Jeserich and Sec. Harold Hillenbrand critical of false and misleading claims made by manufacturers. Early clippings indicate the gist of these statements was carried in such newspapers across the U. S. as *New York Times*, *Washington Post and Times-Herald*, *Toledo (Ohio) Blade*, *Wall Street Journal*, *Chicago Tribune*, *Des Moines Register*, *Arkansas Gazette*, *San Francisco News-Call Bulletin* and *Los Angeles Examiner*. Further coverage was given by the trade publication *Advertising Age*. Several radio stations also were reported to have carried the Nov. 12 Hillenbrand statement calling dentifrice advertising claims on TV as well as in printed media "misleading and detrimental to the dental health of the public."

#### DROP "EXAGGERATED CLAIMS," CONSTITUENT URGES NETWORK\*

Action on the constituent society level protesting false and misleading dentifrice advertising came from Dr. Lyman E. Wagers, Lexington, president of Kentucky Dental Association. Dr. Wagers wrote Frank Stanton, president of Columbia Broadcasting System, urging him to eliminate "exaggerated claims" made by manufacturers of dental products on television. He called the commercials "a dangerous type of brainwashing." In his letter to Stanton, Dr. Wagers said there are only three legitimate ways to reduce caries, advertising claims to the contrary. These he listed as: (1) Exclusion of sugars and starches from the diet; (2) immediate brushing of teeth after eating; and (3) fluoridation of community water supplies.

#### TV DENTIFRICE ADS LIKENED TO MEDICINE SHOW CLAIMS\*

Dr. Albert R. Weber, editor of the *Bulletin* of Cincinnati Dental Society, anticipated the dentifrice advertising furor with an editorial protesting television commercials in the November issue of the publication. Called "The Old Medicine Show," the editorial compares "exaggerated and stupendous" claims made for dentifrices today on TV with those formerly made by medicine men for "some cure-all elixir or snake oil." Says Dr. Weber:

Medicine men are now on the picture tubes and are being watched by a tremendous number of people . . . The dental profession should be interested in these modern medicine men because of the many exaggerated and false claims made in a pseudo-scientific manner regarding dental preparations . . . The next time you see the medicine show on television, just close your eyes and imagine you see old "Doc" and the Indian selling the cure-all snake oil while standing on the rear platform of his truck. The fact is that it might be better if the medicine show were back on the truck.

#### DR. JESERICH STRESSES COMPONENTS' IMPORTANCE AT SECRETARIES' MEETING\*

Pres. Paul H. Jeserich set the theme for the 11th State Secretaries' Management Conference when he addressed the opening session Nov. 19. He told participants that it is "your responsibility and challenge to assist the component societies in expanding their present activities as well as embarking on new ones." Dr. Jeserich said conference discussions were to be used as the basis for a manual designed to aid component officers in conducting projects. Importance of the local society in the structure of American dentistry

\*Excerpts from the A.D.A. *News Letter*, Nov. 30, 1959.

was emphasized by the A.D.A. president. Some 38 constituent societies—2 more than the previous high set last year—were represented at the conference, which attracted a total of 51 participants. Hawaii and Idaho had representatives for the first time. Attending their 11th straight conference were Dr. Paul W. Clopper, secretary of Illinois State Dental Society; Ray Cobaugh, executive secretary of Pennsylvania Dental Association; Kenneth F. Crane, executive secretary of Wisconsin State Dental Society; Dr. Fritz A. Pierson, secretary of Nebraska Dental Association; and H. Leon Snow, executive secretary of Michigan State Dental Association.

### Orthodontists Display Prize Catch

A. A. O. Vice-President Frank Heimlich and his son, Al Heimlich, obviously are fishermen of no mean ability. The accompanying photograph shows them with three of the eighty-five salmon which they caught on a recent outing at Brown's Bay, Vancouver Island. Apparently, the Drs. Heimlich know how to throw a "hot line."



Frank Heimlich, Al Heimlich, and three victims of their "hot lines."

### Cuban Association of Orthodontists

The Cuban Association of Orthodontists wishes to extend to American and Latin American orthodontists a most cordial invitation to attend its biennial meeting, which will take place in Havana City on Feb. 22 and 23, 1960. Guest clinicians will present their material during the conferences. Dr. Allan G. Brodie from Chicago will be an essayist and guest of



honor. The meeting will be held in the Waldorf Room of the Havana Hilton Hotel. Luxury accommodations can be reserved for \$5.00 to \$10.00 per person by addressing Dr. Juan Díaz Zayas-Bazán at 19 Nro. 376, Vedado, Havana.

Nutshell touring of Havana City night life is included for the "free time" of the meeting. Special ladies' daytime sight-seeing tours have also been planned. For any other information regarding this meeting, please address Dr. Thais de los Santos or Dr. Juan Díaz at the above address at the earliest possible date.

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### International Dental Congress

The International Dental Congress, commemorating the seventieth anniversary of the University Dental Clinic of Vienna and the one-hundredth anniversary of the Society of Austrian Dentists, will be held in Vienna, Austria, Sept. 28 to Oct. 2, 1960. Facilities for simultaneous translations into German, English, French, and Italian will be provided.

### Drs. Thompson and Graber to Lecture at University of Michigan

Will M. Thompson, Jr., of Pittsburgh, Pennsylvania, and T. M. Graber of Kenilworth, Illinois, have been named as lecturers in the graduate program in the Department of Orthodontics, School of Dentistry, University of Michigan.

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### Lenox Hill Hospital

The next two meetings of the orthodontic staff of Lenox Hill Hospital in New York City will be held on Thursdays at 8:15 P.M. in the Doctor's Lecture Hall. On February 11 Justin Traub will give an illustrated talk on "Estate Planning for the Professional Man." On April 14 Dr. Nathan Allen Shore will discuss "Occlusal Equilibration and Temporomandibular Joint Dysfunction."

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### First Pan-American Odontopediatrics Congress

The first Pan-American Odontopediatrics Congress will be held in Bogotá, Colombia, Feb. 21 to 27, 1960.

Those interested in participating in the benefits to be afforded by this meeting of specialists in infantile odontology are asked to indicate on the following registration form the way in which they wish to participate. \*

- (a) Delegate
- (b) Member of the Colombian Odontopediatrics Association
- (c) Member of the Colombian Odontological Federation
- (d) Speaker
- (e) Congress member?
- (f) Companion (Attendant)
- (g) Student
- (h) Adscript? Member
- (i) Commercial Exhibitor

Name -----

Signature -----

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### Notes of Interest

Dr. Henry Adelson announces the removal of his office to 1 Hanson Pl., Brooklyn, New York, practice limited to orthodontics.

Allan A. Ash, D.D.S., M.S., announces the opening of his offices at 15231 West Seven Mile Rd., Detroit, Michigan, practice limited to orthodontics.

Jack A. Hill, D.D.S., M.S., announces that he has assumed the orthodontic practice of George H. Wern, D.D.S., M.S., 500 West Fifteenth, Austin, Texas.

Michael M. Krop, B.S., D.D.S., M.S.D., announces the opening of his office for the practice of orthodontics in the Giller Building, 975 Arthur Godfrey Rd., Miami Beach, Florida.

Robert J. Kuhn, D.D.S., M.S.D., announces the opening of his office for the practice of orthodontics at 1235 Garden St., Santa Barbara, Calif.

Leon Kussick, D.D.S., announces the opening of his office for the practice of orthodontics at 1034 Clinton Ave., Irvington, New Jersey.

Herman S. Livingstone, D.M.D., announces the association of Dr. Herbert Wells in the exclusive practice of orthodontics at 1177 Washington St., Dorchester Centre, Massachusetts.

H. Joshua Sloan, D.D.S., and Morris Ackerman, D.D.S., announce the opening of an additional office for the exclusive practice of orthodontics at 43 Bronx River Rd., Yonkers, New York.

Lyman E. Wagers, D.M.D., takes pleasure in announcing that Russell P. Greer, D.D.S., M.S., will hereafter be associated with him in the practice of orthodontics at 227 Harrison Ave., Lexington, Kentucky.

J. Clifford Willcox, D.D.S., announces the removal of his office to Thatcher Medical Center, 960 East Green St., Pasadena, California, practice limited to orthodontics.

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### Postgraduate Courses in Orthodontics

#### LOYOLA UNIVERSITY SCHOOL OF DENTISTRY

A postgraduate course entitled "Cephalometrics for Treatment Planning and Case Analysis" will be offered by Loyola University School of Dentistry, Chicago, Illinois, on Jan. 20 to 23, 1960. The course will be given under the direction of Dr. Cecil Steiner.

#### UNIVERSITY OF ALABAMA SCHOOL OF DENTISTRY

A refresher course in "Removable Orthodontic Appliance Construction" will be given at the University of Alabama School of Dentistry on Feb. 13, 14, and 15, 1960, by Dr. Samuel Gore.

#### Forthcoming meetings of the American Association of Orthodontists:

1960—Shoreham Hotel, Washington, D. C., April 24 to 28.

1961—Denver Hilton Hotel, Denver, Colorado, April 16 to 21.

1962—Statler Hotel, Los Angeles, California, April 28 to May 3.

1963—Americana Hotel, Miami Beach, Florida, April 28 to May 2.

## OFFICERS OF ORTHODONTIC SOCIETIES

The AMERICAN JOURNAL OF ORTHODONTICS is the official publication of the American Association of Orthodontists and its component societies. The Editorial Board of the JOURNAL is composed of a representative of each of the component societies.

### American Association of Orthodontists

(Next meeting April 24-28, 1960, Washington)

*President*, George M. Anderson - - - - - 3700 N. Charles St., Baltimore, Md.  
*President-Elect*, William R. Humphrey - - - - - Republic Bldg., Denver, Colo.  
*Vice-President*, Frank A. Heimlich - - - - - 1824 State St., Santa Barbara, Calif.  
*Secretary*, Earl E. Shepard - - - - - 225 South Meramec, Clayton, Mo.

### Central Section of the American Association of Orthodontists

(Next meeting Sept. 18-20, 1960, St. Louis)

*President*, Leo B. Lundergan - - - - - 8000 Bonhomme Ave., St. Louis, Mo.  
*Vice-President*, Elmer F. Bay - - - - - 216 Medical Arts Bldg., Omaha, Neb.  
*Secretary-Treasurer*, Kenneth E. Holland - - - - - 1019 Sharp Bldg., Lincoln, Neb.  
*Director*, Elmer F. Bay - - - - - 216 Medical Arts Bldg., Omaha, Neb.

### Great Lakes Society of Orthodontists

(Next meeting Nov. 13-16, 1960, Cincinnati)

*President*, Hunter I. Miller - - - - - 1416 Mott Foundation Bldg., Flint, Mich.  
*Vice-President*, George S. Harris - - - - - 18520 Grand River, Detroit, Mich.  
*Secretary*, Edward A. Cheney - - - - - 1201 Bank of Lansing Bldg., Lansing, Mich.  
*Treasurer*, Carl J. Eriesson - - - - - 14805 Detroit Ave., Lakewood, Ohio  
*Director*, Harlow L. Shehan - - - - - 601 Jackson City Bank Bldg., Jackson, Mich.

### Middle Atlantic Society of Orthodontists

*President*, Kyrle W. Preis - - - - - 700 Cathedral St., Baltimore, Md.  
*Vice-President*, William A. Giblin - - - - - 85 Park St., Montclair, N. J.  
*Secretary-Treasurer*, Charles S. Jonas - - - - - Mayfair Apts., Atlantic City, N. J.  
*Director*, Louis E. Yerkes - - - - - 825 Linden Ave., Allentown, Pa.

### Northeastern Society of Orthodontists

(Next meeting March 13-15, 1960, New York)

*President*, Wilbur J. Prezzano - - - - - Medical Centre, White Plains, N. Y.  
*Vice-President*, Irving Grenadier - - - - - 888 Grand Concourse, New York, N. Y.  
*Secretary-Treasurer*, David Mossberg - - - - - 36 Central Park S., New York, N. Y.  
*Director*, Norman L. Hillyer - - - - - 230 Hilton Ave., Hempstead, L. I., N. Y.

### Pacific Coast Society of Orthodontists

(Next meeting Feb. 21-24, 1960, Palo Alto)

*President*, Richard Railsback - - - - - 1333 Grand Ave., Piedmont, Calif.  
*Secretary-Treasurer*, Warren Kitchen - - - - - 2037 Irving St., San Francisco, Calif.  
*Director*, Richard Railsback - - - - - 1333 Grand Ave., Piedmont, Calif.

### Rocky Mountain Society of Orthodontists

(Next meeting Sept. 25-28, 1960, Santa Fe)

*President*, William A. Blueher - - - - - 801 Encino Pl., Albuquerque, N. M.  
*Vice-President*, Louis J. Williams - - - - - 843 S. Center, Casper, Wyo.  
*Secretary-Treasurer*, E. H. Mullinax - - - - - 8790 W. Colfax, Lakewood, Colo.  
*Director*, Ernest T. Klein - - - - - 707 Republic Bldg., Denver, Colo.

### Southern Society of Orthodontists

*President*, M. D. Edwards - - - - - 132 Adams St., Montgomery, Ala.  
*Vice-President*, George F. Wilson - - - - - 400 E. Central Ave., Orlando, Fla.  
*Secretary-Treasurer*, William H. Oliver - - - - - 1915 Broadway, Nashville, Tenn.  
*Director*, Boyd W. Tarpley - - - - - 2118 Fourteenth Ave., S., Birmingham, Ala.

**Southwestern Society of Orthodontists**

(Next meeting Sept. 25-28, 1960, Kansas City, Kan.)

*President*, John W. Richmond - - - - - 493 Brotherhood Bldg., Kansas City, Kan.  
*Vice-President*, Harold S. Born - - - - - 908 S. Johnstone, Bartlesville, Okla.  
*Secretary-Treasurer*, Tom M. Mathews - - - - - 8215 Westchester Dr., Dallas, Texas  
*Director*, Nathan Gaston - - - - - 701 Walnut St., Monroe, La.

**American Board of Orthodontics**

(Next meeting April 18-23, 1960, Washington)

*President*, L. Bodine Higley - - - - - University of North Carolina, Chapel Hill, N. C.  
*Vice-President*, Jacob A. Salzmman - - - - - 654 Madison Ave., New York, N. Y.  
*Secretary*, Wendell L. Wylie - - - - - University of California School of Dentistry,  
The Medical Center, San Francisco, Calif.  
*Treasurer*, Paul V. Reid - - - - - 1501 Medical Arts Bldg., Philadelphia, Pa.  
*Director*, B. F. Dewel - - - - - 708 Church St., Evanston, Ill.  
*Director*, Frank P. Bowyer - - - - - 608 Medical Arts Bldg., Knoxville, Tenn.  
*Director*, Alton W. Moore - University of Washington School of Dentistry, Seattle, Wash.

**A List of the Orthodontic Societies of the World and Their Principal Officers\***

**Angle Society of Orthodontia**

*Secretary*, George W. Hahn - - - - - 2300 Durant Ave., Berkeley, Calif.  
*Treasurer*, Howard Lang - - - - - 1033 Gayley Ave., Los Angeles, Calif.

**Chicago Association of Orthodontists**

*President*, Russell K. Ephland - - - - - Pickwick Bldg., Park Ridge, Ill.  
*Secretary-Treasurer*, Frank J. Krivanek - - - - - 212 S. Marion St., Oak Park, Ill.

**Orthodontic Alumni Society of Columbia University**

*President*, Stanley L. Wein - - - - - 285 Central Ave., Lawrence, N. Y.  
*Vice-President*, Harry Newman - - - - - 80 S. Grove St., Freeport, N. Y.  
*Secretary*, Francis J. Loughlin - - - - - 8559 168th St., Jamaica, N. Y.  
*Treasurer*, Edwin S. Sved - - - - - 95 Carroll Pl., New Brunswick, N. J.

**Harvard Society of Orthodontists**

*President*, Clifford Hunt - - - - - 14 Muzzy St., Lexington, Mass.  
*Vice-President*, Milton J. Meyers - - - - - 281 Haverhill St., Lawrence, Mass.  
*Treasurer*, Bernard Rogell - - - - - 6 Pleasant St., Malden, Mass.  
*Secretary*, Milton J. Meyers - - - - - 281 Haverhill St., Lawrence, Mass.

**Kansas State Orthodontic Society**

*President*, Leo A. Rogers - - - - - 619 Wiley Ave., Hutchinson, Kan.  
*Secretary-Treasurer*, Howard H. Dukes - - - - - 754 Brotherhood Bldg., Kansas City, Kan.

**New York Society for the Study of Orthodontics**

*President*, Nathan J. Sachs - - - - - 84-75 168th St., Jamaica, N. Y.  
*Vice-President*, Leon Gecker - - - - - 305 W. 77th St., New York, N. Y.  
*Secretary*, Howard L. Apley - - - - - 363 East Old Country Rd., Hicksville, N. Y.  
*Treasurer*, Walter Jacobs - - - - - 124 W. 93rd St., New York, N. Y.

**New York University Orthodontic Society**

*President*, Irwin Forster - - - - - 501 Madison Ave., New York, N. Y.  
*Vice-President*, Irwin R. Morton - - - - - 150-02 Hillside Ave., Jamaica, N. Y.  
*Secretary-Treasurer*, Ruben D. Schwager - - - - - 1890 E. Fifth St., Brooklyn, N. Y.

\*In the January issue of the AMERICAN JOURNAL OF ORTHODONTICS is published each year a list of the orthodontic societies of the world of which the JOURNAL has any record, along with the names and addresses of their principal officers.

The JOURNAL keeps a file for each of these societies and publishes the names that appear in that file as of the date of going to press.





**Sociedad de Ortodoncia de Chile**

*President*, Augusto Ramírez V. - - - - - Translavina 230, Vina del Mar  
*Vice-President*, Juan Colin M. - - - - - Augustinas 715 of 111, Santiago  
*Secretary*, Sergio Troncoso M. - - - - - Providencia 1017, Santiago  
*Treasurer*, Pedro Gandulfo G. - - - - - Londres No. 63, Santiago

**Asociación Odontologica de Costa Rica**

*President*, Raymond Pauly S. - - - - -  
*Vice-President*, Ramón García V. - - - - -  
*Secretary*, Jose J. Ulloa G. - - - - -  
*Treasurer*, Norma Zeledón P. - - - - -

**Cuban Association of Orthodontists**

*President*, Juan Díaz Zayas-Bazán - - - - - 19 No. 376, Vedado, Havana  
*Vice-President*, Luis G. Santamarina - - - - - Edif. L y 23, Apto C-10, Vedado, Havana  
*Secretary*, Thais de los Santos - - - - - Calle L #353, Apto 1301, Vedado, Havana  
*Treasurer*, Darío Gandarias - - - - - Calle 25 #954, Vedado, Havana

**Dutch Society for the Study of Orthodontics**

*President*, K. G. Bijlstra - - - - - Ubbo Emmiussingel 2, Groningen  
*Vice-President*, C. J. Sindram - - - - - Kenanpark 27, Haarlem  
*Secretary*, P. Gerbrands - - - - - 17-B Kwekerijweg, Den Haag  
*Treasurer*, W. H. S. Sypkens - - - - - Hoflaan C 118, Middelharnis

**European Orthodontic Society**

*President*, A. T. A. McKeag - - - - - 35 Rugby Rd., Belfast, Northern Ireland  
*Vice-President*, G. Maj - - - - - Via Marsili 15, Bologna, Italy  
*Hon. Treasurer*, H. E. Wilson - - - - - 78 Harley St., London, W. 1  
*Hon. Secretary*, D. P. Walther - - - - - Royal Dental Hospital, London, W. C. 2

**French Society of Dentofacial Orthopedics**

*President*, J. Soleil - - - - - 191, Rue Nationale à Lille, Nord  
*Vice-President*, J. Cauhépe - - - - - 3, Rue Picot, Paris 16  
*Secretary*, B. Beck - - - - - 118, Rue du Maréchal Joffre, Colombes (Seine)  
*Treasurer*, R. X. O'Meyer - - - - - 267 Rue St. Honoré, Paris 8

**Guatemalan Association of Orthodontics and Relative Sciences**

*President*, Alfredo A. Morales - - - - - 13 Calle 4-14, Guatemala City  
*Vice-President*, Hernán Torres C. - - - - - 8a Calle 3-26, Guatemala City  
*Treasurer*, Augusto Hurtarte E. - - - - - 4a Avenida 12-47, Guatemala City  
*Secretary*, Enrique Estrada H. - - - - - 11 Calle 10-61, Guatemala City

**Israel Orthodontic Society**

*President*, H. Berger - - - - - 69 Rothschild Blvd., Tel Aviv  
*Secretary*, I. Bron - - - - - 6 Massaryk Square, Tel Aviv  
*Treasurer*, K. Bernstein - - - - - 96 Allenby Rd., Tel Aviv

**Mexican Orthodontic Society**

*President*, Alicia Lazo de la Vega - - - - - Av. Insurgentes 286-202, Mexico City  
*Secretary*, Rutilio Blanco S. - - - - - Donceles 98, Mexico City  
*Treasurer*, Roberto Vivanco - - - - -

**Sociedad Peruana de Ortodoncia**

*President*, Arturo H. Koenig - - - - - Lord Nelson 240—Miraflores, Lima  
*Vice-President*, Ricardo Salazar S. - - - - - Pasaje Olaya 156, Lima  
*Secretary*, Carlos Ganoza C. - - - - - Camaná 615, Lima  
*Treasurer*, Demetrio Calderón - - - - - Huancavelica 369, Lima

**Orthodontic Section of the Swedish Dental Society**

*President*, Anders Lundström - - - - - Stureplan 19, Stockholm  
*Secretary*, Allan Hellgren - - - - - Sweavägen 88, Stockholm  
Gull Bjuggren - - - - - Hagavägen 22, Hagalund  
Hugo Thörne - - - - - Vanadisvägen 43, Stockholm